

8 JAN 1968

Preliminary Bulletin

of the Dodaira Micro-earthquake Observatory

and its Substation

Jan., Feb. and March, 1967

Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : Am : Amplitude in millimicron (peak to trough) of short
period vertical P motion maximum within few cycles
after the onset.

T : Period in sec of the measured P maximum

* , " : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time(G.M.T)			
JAN. 1	K	eP	00	30	21.1	Teleseism
	T	eP			30.0	
	D	eP			31.1	
	K	iP	07	16	38.6	Teleseism
	T	iP			43.1	
	D	iP			45.8	
	K	iP	08	55	41.5	Teleseism
	T	iP			47.4	
	D	iP			49.7	
	T	eP	12	51	12.6	
	D	eP			21.8	
	K	eP	14	49	39.3	
	D	eP			49.8	Teleseism
	T	eP			49.9	
	T	eP	15	55	57.1	
JAN. 2	D	eP		56	04.1	
	K	eP			09.4	
	D	eP				
	D	iP	03	24	50.9	Teleseism
	K	iP			51.0	
	T	iP			54.9	
	D	iP	11	07	15.3	Teleseism
	K	iP			18.1	
	T	iP			18.5	
	T	iP	14	01	29.8	Teleseism
	K	eP			34.4	
	K	eP	20	09	16.7	Teleseism
	T	eP			24.0	
	D	eP			25.4	
JAN. 3	K	eP	23	44	55.0	
	D	eP		45	01.0	
	T	eP			03.3	
	T	iP	00	26	35.0	
	D	iP			42.8	
	K	eP			49.4	
	K	iP	02	52	32.5	
	D	iP			43.9	
	T	iP			44.7	
	K	iP	11	16	04.0	
	D	iP			04.5	
	T	iP			08.4	
	D	iP	18	12	25.6	
	K	iP			45.2	
	K	iP	21	32	42.1	Teleseism
	D	iP			49.3	

Date	Station	Phase	Time(G.M.T)			
JAN. 4	K	iP	00	09	37.8	
	D	iP			51.3	
	K	iP	00	16	12.1	
	D	iP			26.2	Teleseism
	K	iP	09	41	24.9	
	D	iP			28.5	
	D	iP	17	38	49.5	Teleseism
	K	iP			59.6	
	D	iP	18	02	09.5	
	K	iP			10.3	
JAN. 5	D	eP	00	20	37.5	Teleseism
	K	eP			49.3	
	D	iP	08	15	12.1	
	K	iP			12.4	
	T	iP			16.1	
	D	eP	10	17	07.5	Teleseism
	T	iP			09.9	Teleseism
	K	iP			14.0	
	K	eP	10	44	59.2	Teleseism
	T	eP		45	04.5	
	D	eP			06.2	
	D	iP	00	48	12.1	
	D	iP	06	19	03.8	Teleseism
	K	iP	15	12	21.7	
	D	iP			22.2	
	T	iP			26.2	
	T	eP	15	49	22.1	
	D	eP			30.7	
	K	eP			36.5	
JAN. 6	T	eP	20	39	38.1	Teleseism
	D	eP			48.2	
	T	iP	00	05	30.9	
	D	iP			39.9	
	K	iP			45.4	
	K	eP	01	18	54.0	
	D	eP		19	01.6	Teleseism
	T	eP			02.7	
	T	iP	06	27	38.9	
	D	iP			49.3	
	K	eP			53.7	
	K	iP	06	48	28.1	
	T	iP			34.5	
	D	eP			43.5	

Date	Station	Phase	Time(G.M.T)			
JAN. 6	K	eP	07	26	46.1	Teleseism
	D	eP		27	01.9	
	T	eP			02.2	
JAN. 6	K	eP	10	10	24.4	Teleseism
	D	eP			27.3	
	T	iP			29.3	
JAN. 6	D	eP	10	12	40.4	Teleseism
	T	iP			41.1	
	D	iP	10	45	08.6	Teleseism
JAN. 6	T	iP			10.6	
	K	iP			25.5	
JAN. 6	K	eP	11	20	24.5	
	D	iP			31.4	
	T	eP			34.3	
JAN. 6	K	iP	23	41	52.7	
	D	iP		42	06.3	
	T	eP			06.8	
JAN. 7	T	eP	00	40	10.6	Teleseism
	D	eP			10.8	
	D	iP	08	00	19.0	
JAN. 7	K	iP			19.9	
	T	iP			23.2	
	D	iP	11	50	41.3	
JAN. 7	T	iP			52.6	
	K	eP		51	00.8	
	T	eP	12	24	32.9	
JAN. 7	K	eP	13	05	30.5	
	T	eP			40.0	
	K	iP	13	39	54.5	Teleseism
JAN. 7	D	iP		40	02.7	
	T	iP			03.2	
		iX			12.5	
JAN. 7		eX			49.0	
	T	eP	15	08	20.7	
	D	eP			26.4	
JAN. 7	T	eP	16	50	24.4	Teleseism
	D	eP			25.9	
	K	iP	18	33	53.9	
JAN. 7	D	iP			54.2	
	T	iP			58.2	
JAN. 7	T	iP	22	37	07.8	
	K	iP			15.8	
	D	iP			18.7	

Date	Station	Phase	Time(G.M.T)			
JAN. 4	D	eP	03	46	37.6	Teleseism
	K	eP			39.0	
JAN. 8	T	eP	05	08	16.9	Teleseism
	D	eP			21.1	
JAN. 12	D	eP	05	55	34.8	
	K	eP			39.1	
	T	eP			39.8	
	T	eP	08	37	25.5	Teleseism
	D	eP			29.3	
	T	iP	10	57	01.0	
	D	iP			11.1	
	K	iP			14.5	
JAN. 9	K	iP	08	54	35.4	
	T	iP			41.3	
	D	iP			41.7	
	T	iP	11	16	11.6	
	D	iP			21.0	
	K	iP			24.4	
	K	iP	20	37	10.6	
	T	iP			21.2	
	D	iP			21.3	
	T	iP	21	58	44.5	
	D	iP			54.6	
	K	iP			57.1	
	K	eP	23	35	15.6	Teleseism
	T	eP			24.8	
JAN. 10	D	iP	00	58	23.3	
	K	iP			30.9	
	T	iP			33.5	
	D	iP	08	30	39.3	
	T	iP			50.6	
	K	iP			58.6	
	D	eP	17	35	13.3	
	T	eP			25.6	
	K	eP			33.6	
	D	eP	17	50	49.0	
	T	eP			58.6	
JAN. 11	D	iP	01	31	10.7	
	T	iP			12.7	
	K	iP			26.5	
	D	iP	02	03	54.3	
	T	iP			55.0	
	K	iP		04	11.2	

Date	Station	Phase	Time(G.M.T)		
JAN.11	K	eP	15	00	51.3
	T	eP		01	00.8
	K	eP	17	25	02.5
	T	eP			11.2
JAN.12	K	iP	09	53	58.3
	T	iP		54	08.3
	D	eP			08.9
	K	iP	10	44	28.7
	T	iP			41.9
	D	eP			43.2
	D	iP	12	25	04.8
	T	iP			16.0
	K	iP			23.4
	K	eP	17	55	28.3
	D	eP			35.6
	T	eP			38.0
	T	eP	19	30	51.3
	D	eP			59.9
	K	eP		31	06.6
JAN.13	T	iP	00	36	48.3
	D	iP			49.7
	K	iP			56.2
	K	iP	02	27	21.9
	D	iP			25.9
	T	iP			29.0
	K	eP	13	57	03.0
	D	eP			09.5
	T	eP			10.3
	T	iP	17	27	36.4
	K	iP			36.5
	D	iP			44.8
	T	eP	17	44	17.0
	D	eP			27.6
	K	eP	18	42	54.4
	T	eP		43	06.7
	D	eP			09.4
JAN.14	D	iP	00	46	26.2
	T	iP			38.6
	K	iP			40.7
	T	eP	01	20	39.1
	D	eP			49.4
	T	eP	02	06	09.1
	D	eP			19.7

Teleseism

Teleseism

Date	Station	Phase	Time(G.M.T)			
JAN.14	T	eP	02	11	53.3	
	D	eP		12	03.5	
	K	eP			08.2	
	K	eP	03	04	52.7	
	T	eP		05	07.0	
	D	eP			08.9	
	K	iP	03	14	48.8	Telesism
	T	iP		15	02.7	
	D	eP			04.8	Telesism
	K	eP	03	45	03.0	
	T	eP			15.9	
	D	eP			18.2	
	D	iP	05	31	37.5	
	K	iP			40.4	
	T	iP			42.5	
	D	eP	13	38	08.8	Teleseism
	T	eP			09.0	
	K	iP	16	06	22.8	
	T	iP			35.9	
	D	eP			37.3	
	T	iP	16	54	13.2	
	D	iP			15.4	
	K	iP			15.5	
JAN.15	D	iP	02	10	17.0	
	K	iP			18.4	
	T	iP			21.4	
	K	eP	05	18	24.8	
	T	eP			36.9	
	D	iP	05	45	46.6	Telesism
	T	iP			50.7	
	K	iP			56.6	
	D	iP	12	17	57.7	
	K	iP		18	03.6	
	T	iP			07.1	
	D	iP	14	22	25.3	
	T	iP			26.2	
	K	eP			35.6	
	K	iP	17	51	25.4	
	T	iP			26.6	
	D	iP			30.8	
JAN.16	D	iP	03	31	35.4	
	T	iP			46.6	
	K	iP			54.7	

Date	Station	Phase	Time(G.M.T)			
JAN.16	D	iP	03	32	27.0	
	T	iP			38.2	
	K	eP			47.2	
	D	iP	05	05	20.2	
	K	iP			20.8	
	T	iP			21.8	
	T	eP	07	30	51.1	Teleseism
		eX		31	05.1	
	D	eP		30	52.7	
		eX		31	08.7	Teleseism
	T	eP	10	53	49.5	
	T	eP	14	24	23.5	
	T	iP	17	42	02.7	
	D	eP			12.7	
	T	iP	20	48	07.3	
	K	iP			17.4	
	D	iP			18.3	
	K	iP	21	38	49.2	
JAN:17	T	iP			59.8	
	D	iP		39	03.9	
	T	iP	22	17	08.9	
	D	iP			19.2	
	K	eP		30	20.3	
	D	iP	23	55	08.3	
	K	iP			09.3	
	T	iP			12.6	
	T	eP	00	34	58.6	
	D	eP			06.9	
	T	eP	01	29	02.2	Teleseism
	D	eP			02.9	
	T	iP	02	03	21.7	
	K	iP			25.7	
	D	iP			32.0	
	T	iP	12	00	10.8	
	D	iP			20.6	
	K	iP			24.4	
	T	iP	12	12	20.8	
	D	iP			30.9	
	K	eP			34.3	
	T	iP	12	27	00.9	
	D	iP			11.1	
	K	iP			14.7	

Date	Station	Phase	Time(G.M.T)			
JAN.17	T	iP	12	35	18.9	
	D	iP			28.3	
	K	iP			31.8	
	T	iP	12	43	19.4	
	K	eP			33.0	
	D	eP			34.9	
	T	eP	18	07	12.0	
	D	eP			20.9	
JAN.18	T	iP	04	24	41.0	Teleseism
	D	eP			49.6	
	K	eP			55.2	
	D	iP	05	39	48.1	Teleseism
	T	eP			48.2	
	K	eP			58.7	
	D	iP	06	00	27.8	
	T	iP			32.7	
	K	eP			33.5	
	T	eP	06	24	19.3	
	D	eP			28.3	
	T	iP	08	25	49.5	Teleseism
	D	eP			55.4	
	K	eP			57.2	
	T	iP	08	30	31.2	
	D	iP			38.3	
	K	iP			45.1	
	K	iP	13	27	54.2	
	D	iP		28	01.8	
	T	iP			03.6	
	T	iP	13	58	14.5	
	D	iP			20.7	
	K	eP			28.8	
	T	eP	14	40	30.7	Teleseism
	D	eP			32.9	
	D	iP	16	58	16.7	
	T	iP			27.3	
	K	eP			35.3	
	T	iP	17	59	23.5	
	D	iP			32.1	
	K	eP			36.1	
	T	eP	22	52	31.4	
JAN.19	T	iP	00	16	12.8	
	K	iP			21.2	
	D	iP			23.2	

Date	Station	Phase	Time(G.M.T)			
JAN.19	K	iP	00	41	15.8	
	T	iP			21.0	
JAN.20	D	iP	02	05	27.2	
	T	iP	04	16	36.4	
	D	iP			47.4	
	K	eP	09	12	48.2	
	T	iP	05	17	03.1	
	D	iP			13.2	
	K	eP	10	35	17.2	
	K	iP	10	05	32.1	
	D	iP			39.0	
	T	iP			41.2	
	K	eP	12	47	33.6	Teleseism
	T	eP			40.5	
	D	eP	18	05	41.6	
	K	eP	12	50	40.3	Teleseism
	D	eP	19	46	45.6	
	T	eP			46.4	
JAN.21	T	eP	14	12	15.1	
	D	eP			25.0	
	T	eP	14	44	05.9	Teleseism
	D	eP			09.2	
	T	eP	14	48	55.0	Teleseism
	D	eP	06	49	01.9	
	K	eP	14	54	41.1	
	D	iP			46.8	
	T	iP			49.4	
	T	eP	15	42	21.5	
	D	eP			30.0	
	T	iP	16	17	28.3	
	D	iP	15	18	38.4	
	K	eP			42.0	
	D	eP	17	24	12.8	
	T	eP	18	31	14.6	
	T	eP	19	46	59.4	
	D	eP			09.2	
JAN.22	T	eP	22	43	20.8	

Date	Station	Phase	Time(G.M.T)			*	T	Am
JAN.19	D	eP	16	57	07.6	*		
JAN.20	T	eP	02	03	23.4	*	1.0	100
	D	eP			23.8			
	K	eP			34.4			
	T	iP	09	12	52.8			
	D	iP			55.2			
	D	iP	10	35	53.5			
	T	iP			57.2			
	D	iP	14	29	13.1			
	T	iP			17.8			
	D	eP	16	17	12.2			
	T	eP			12.6			
	T	iP	18	05	23.5			
	D	iP			34.4			
	T	iP	19	46	58.7			
	D	iP		47	06.2			
JAN.21	T	eP	00	34	18.2			
	D	eP			26.2			
	D	eP	04	31	05.5	*		
		iPP			12.7			
	T	eP			12.6		1.5	92
	T	eP	06	50	38.0			
	T	eP	07	49	50.7			
	D	eP			59.7			
	K	eP		50	02.8			
	K	iP	12	40	46.3			
	T	iP			59.0			
	D	iP		41	00.2			
	K	eP	15	28	02.8			
	D	eP			10.9			
	T	eP			12.1			
	T	eP	18	51	49.3			
	K	eP			57.4			
	D	iP			59.2			
JAN.22	T	eP	02	05	19.3			
	D	eP			25.9			
	T	iP	14	00	40.1			
	K	iP			40.5			
	D	iP			48.3			
JAN.23	D	eP	00	34	10.4			
	T	eP			16.0			
	K	eP			20.3			

Date	Station	Phase	Time(G.M.T.)			*	T	Am
JAN.23	D	eP	06	57	57.7			
	K	iP	07	26	34.7			
	T	iP			48.1			
	D	iP	07	03	49.0			
	D	iP	10	23	31.6			
	T	eP			43.4			
	K	eP	05	00	51.1			
	K	eP	12	25	27.8			
	D	eP	15	07	36.5			
	T	eP			38.2			
	T	eP	18	44	53.0			
	D	eP		45	01.8			
	K	eP			05.7			
	T	eP	21	50	52.8			
JAN.24	D	eP	10	09	57.4	*		
	T	iP	03	06	56.7			
	D	eP		07	04.0			
	K	eP	23	17	10.9			
	T	eP	04	50	57.5			
	D	eP		51	03.7			
	K	eP	03	24	10.9			
	D	iP	07	11	54.2			
	T	iP			58.2			
	K	eP		12	11.9			
	T	eP	07	47	54.0			
	D	eP	15	48	04.3			
	K	eP			04.4			
	T	eP	08	26	04.4			
	T	eP	09	48	38.8	*		
JAN.25	D	ePP		51	41.8			
	D	eX		49	07.8			
	K	iP	16	52	42.7			
	T	eP			48.5			
	D	eP			58.1			
	T	eP	18	07	49.0			
	K	eP			58.7			
	D	eP			59.3			
	T	eP	19	31	31.5	*	1.0	50
	D	eP			39.8			
	T	eP	19	34	45.7			
	D	eP			54.5			
	T	eP	14	15	34.4			
	D	eP			43.0			

Date	Station	Phase	Time(G.M.T)			*	T	Am
JAN.25	D	eP	01	59	11.5		1.2	800
	T	eP			15.0			
	K	eP			19.2			
	K	eP	02	03	40.3	*	1.4	140
	D	eP			43.1			
	T	eP			44.9			
	T	eP	03	08	20.3			
	D	eP			28.7			
	D	eP	15	07	58.1	*		
	K	eP	21	43	05.4			
	D	eP			12.5			
	T	eP			14.7			
JAN.26	D	eP	04	05	40.6	*		
	D	eX	10	09	04.4	*		
	T	eP	11	31	30.0			
	T	iP	23	19	15.6			
	D	iP			19.8			
	K	iP			21.0			
JAN.27	D	eX	02	24	41.7	*		
	T	eP	02	45	07.1			
	D	eP			15.7			
	D	eP	03	59	15.8	*		
	T	eP	15	30	32.0			
	K	iP	19	32	31.4			
JAN.28	D	iP			36.4			
	T	iP			37.7			
	D	eP	01	44	40.2	*		
	K	eP			41.6			
	T	eP			42.7			
	K	eP	05	30	55.1			
	D	iP			57.1			
	K	iP	11	57	04.8			
	T	eP			15.9			
	D	eP			19.9			
	T	eP	14	00	18.3	*	0.8	220
	D	eP			24.2			
	K	eS		06	28.6			
		eP		00	26.6			
	T	eP	14	13	17.3	*	1.1	40
	D	eP			24.4			

Date	Station	Phase	Time(G.M.T)			*	T	Am
JAN.28	T	eP	14	30	47.2	*	1.1	60
	D	eP			52.9			
	T	eP	14	37	45.9	*	0.5	10
	D	eP			52.5			
	T	eP	16	38	43.8	*	1.0	80
	D	eP			49.2			
	K	eP			50.1			
	T	eP	17	22	13.6			
	D	eP			23.4			
	K	eP			24.1			
	T	eP	17	26	53.4	*	1.2	40
	D	eP			59.4			
	T	eP	17	49	22.1	*	1.0	130
	D	eP			29.1			
	K	eP			29.9			
JAN.29	D	eP	19	18	56.5			
	T	iP		19	01.8			
	K	eP			03.9			
	T	eP	22	33	00.4	*	0.5	30
	D	eP			06.4			
	T	iP	22	40	41.9			
	K	eP			52.3			
	D	iP			52.8			
	T	iP	23	37	21.0			
	K	iP			25.7			
	D	iP			30.4			
	T	iP	05	09	13.7			
	K	iP			17.3			
	D	iP			23.0			
JAN.29	D	eP	12	45	38.0			
	K	eP			39.8			
	T	eP			43.6			
	K	eP	16	46	38.5			
	D	eP			46.1			
	T	eP			49.0			
	T	iP	19	23	56.6			
	D	iP		24	05.2			
	K	iP			09.2			
	K	eP	19	47	27.8			
	D	eP			35.9			
	T	eP			37.9			
	K	eP	19	55	16.3			
	D	eP			22.0			
	T	eP			25.5			

Date	Station	Phase	Time(G.M.T)			*	T	Am
JAN.30	D	iP	01	02	37.4			
	T	iP			39.8			
	K	iP			47.9			
	T	eP	05	47	23.2			
	D	eP			31.7			
	T	eP	06	48	26.1			
	K	iP	10	40	33.2			
	D	iP			34.5			
	T	iP			38.2			
	K	eP	19	32	23.5			
	D	eP			29.4			
	T	eP			32.0			
	D	eP	20	15	22.9	*	0.5	50
	K	eP			24.7			
	T	eP			28.3			
	T	eP	20	40	11.9			
	D	eP			19.9			
	D	eP	21	12	44.7	*	0.5	10
	T	eP			49.3			
JAN.31	K	eP	23	35	05.8			
	D	eP			10.6			
	T	eP			14.2			
	K	iP	07	32	35.1			
	T	eP			48.6			
	D	eP			49.3			
	T	eP	08	10	07.5			
	K	eP			08.2			
	D	eP			17.5			
	D	eP	10	05	19.0	*	0.5	10
	T	eP			22.6			
	D	iP	11	42	02.2			
	T	iP			06.8			
	K	eP			11.5			
	T	eP	17	45	48.0			
	D	eP			56.9			
	K	eP		46	01.3			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB. 1	T	eP	08	33	37.3			
	D	eP			45.5			
	T	eP	09	23	51.2	*	1.0	40
	D	eP			58.8			
FEB. 2	D	eP	06	45	34.0	*	1.1	40
	K	eP			38.3			
	T	eP			45.2			
	D	eP	10	09	35.9			
	T	eP			48.5			
	K	eP			49.2			
	T	iP	16	25	55.1			
	D	eP		26	00.6			
	K	eP			09.1			
	K	eP	18	25	40.5	*	0.5	30
	T	eP			47.9			
	D	eP			48.2			
FEB. 3	D	iP	08	17	21.3			
	K	iP			40.1			
	D	eP	12	56	06.7	*	1.0	90
		ePP		57	21.7			
		eS	13	00	29.3			
	T	eP	12	56	11.1			
	D	eP	13	02	28.5	*	1.2	80
	T	eP			31.5			
	T	iP	20	47	53.2			
	K	iP		48	03.4			
	D	iP			04.2			
	T	eP	20	49	54.6			
	D	eP		50	05.8			
FEB. 4	T	eP	04	36	38.0			
	D	eP			46.4			
	T	eP	09	28	06.8			
	D	eP			15.0			
	K	eP			19.8			
	D	iP	14	59	09.8			
	T	eP			21.8			
	K	eP			29.2			
	K	eP	17	51	23.0			
	T	eP			36.0			
	D	eP			36.4			
	K	eP	20	48	29.4			
	T	iP			32.8			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB. 4	T	eP	21	25	13.1			
FEB. 5	T	eP	07	38	07.6			
	D	eP			17.8			
	T	eP	12	57	11.8			
FEB. 5	K	eP	18	39	14.7			
	D	eP			23.4			
	T	eP			24.8			
FEB. 6	T	iP	03	21	54.1			
	K	iP			54.6			
	D	eP		22	02.7			
	T	iP	03	35	05.9	*	1.2	120
	D	eP			10.4			
	K	eP			12.8			
FEB. 6	T	eP	10	37	23.5			
	D	eP			31.9			
	K	eP			38.1			
	K	iP	15	53	16.4			
	T	iP			20.7			
	D	iP			30.1			
	D	iP	17	31	26.6			
	T	iP			27.0			
	K	iP			33.4			
	K	iP	17	47	51.8			
	D	iP			52.5			
	T	iP			56.3			
	K	eP	20	17	01.8			
	T	eP			13.6			
	D	eP			14.2			
FEB. 7	K	eP	08	33	37.7	*	1.2	230
	D	eP			46.4			
		ePcP		37	38.8			
		eS			45.8			
		eScP		41	02.6			
		eScS		44	51.0			
		eP ^{PcS}		45	53.4			
	T	eP		33	47.8			
	D	eP	11	07	29.6			
	T	eP	15	01	31.2	*	1.0	40
	D	eP			36.2			
		eP ^P			52.4			
	K	eP			38.4			
	D	iP	17	27	39.7			
	T	eP			51.9			
	K	eP			59.7			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB.7	T	eP	18	40	23.4			
	K	eP			32.9			
	D	eP			33.8			
	T	eP	19	45	33.4	*	0.5	10
	D	eP			38.9			
	K	eP			42.4			
FEB.8	T	eP	01	55	56.8			
	D	eP			56			
					06.5			
	T	eP	07	00	06.6			
	D	iP	09	49	55.4			
	T	iP		50	05.6			
	K	eP			14.2			
	T	eP	15	55	34.4	*		
	D	iP	00	51	09.1			
	T	eP			19.1			
FEB.9	K	eP			27.7			
	T	iP	02	47	25.0			
	K	eP			31.8			
	D	eP			35.8			
	T	eP	10	45	22.2			
	D	eP			33.5			
	K	eP			35.3			
	T	eP	12	32	40.6			
	D	eP			49.1			
	T	eP	14	20	55.5			
	D	eP		21	03.1			
	K	eP			08.8			
	D	eP	15	04	07.5			
	K	eP			07.7			
	T	eP			11.7			
	T	ePKP	15	43	51.3	*	1.4	230
		ePP		45	57.5			
		eSKP		47	12.4			
	D	ePKP		43	52.2			
		ePP		45	59.9			
		eSKP		47	17.2			
		ePSKP			36.9			
		eSS	16	03	04.2			
	K	ePKP	15	43	54.9			
	D	eP	21	33	39.7			
	T	eP			44.8			
	K	eP	21	54	27.7			
	T	eP			40.9			
	D	eP			42.5			

Date	Station	Phase	Time (G.M.T.)			*	T	Am
FEB. 10	T	iP	01	08	14.2			
	D	iP			23.4			
	K	eP			29.0			
	D	eP	05	59	46.2	*	0.5	20
	T	eP			49.7			
		eX	06	01	49.2			
	K	eP	01	23	44.0			
	D	eP			51.1			
	T	eP			53.0			
	D	eP	11	37	57.8	*	0.5	10
FEB. 11	T	eP			59.0			
	K	eP	18	31	22.1			
	T	iP			27.6			
	D	eP			35.9			
	T	eP	02	31	52.2			
	D	eP		32	01.8			
	K	eP			04.9			
	T	eP	02	44	26.9	*	1.3	100
	D	eP			34.5			
	T	eP	06	38	04.1			
FEB. 12	D	iP			10.3			
	T	eP	10	27	33.3			
	D	eP			41.0			
	T	eP	14	36	49.8	*	0.5	13
	D	eP		37	00.8			
	T	eP	14	44	20.2			
	D	eP			29.9			
	T	eP	21	08	34.8			
	D	eP			35.7			
	D	iP	00	21	47.1			
FEB. 13	T	iP			55.5			
	T	eP	03	31	33.3			
	D	eP			44.2			
	T	iP	10	53	02.2			
	D	eP			12.8			
	T	eP	14	09	58.1			
	D	eP		10	04.6			
	T	iP	14	28	02.7	*	1.4	270
	D	iP			05.7			
		ePcP			13.7			
FEB. 14	T	eP	20	06	00.9			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB.13	T	iP	11	21	17.9		1.1	190
	D	iP			21.0			
	K	iP			28.4			
	T	eP	11	33	07.4			
	K	iP	14	09	26.6			
	T	iP			33.0			
	D	eP	10	22	38.4		1.2	320
	T	eP	17	07	23.2			
	D	eP			34.5			
	K	eP	16	43	43.4			
	T	eP	23	27	31.9	*	1.2	110
	D	eP			32.1			
FEB.14	D	eP	01	44	11.4	*	1.2	100
	T	eP			18.6			
	K	eP			23.7			
	T	eP	05	11	29.6	*	0.5	50
FEB.15	D	iP			31.0			
		iS		18	36.2			
	K	eP	05	43	22.7			
	T	eP			35.6		0.5	20
	D	eP			38.9			
	D	eP	06	05	20.0	*	1.1	120
	T	eP			25.2			
	T	iP	10	26	38.0			
	D	iP			44.1			
	K	eP			51.2			
	T	eP	16	29	28.3	*	1.0	550
		eS		32	15.7			
FEB.16		eX			27.3			
	D	eP		29	31.4			
		eS		32	18.8			
		eX			29.6			
	K	eP	02	29	32.1			
		eS		32	19.0			
	D	eP	06	52	22.3	*	0.5	20
	T	eP			26.2			
	T	iP	16	40	20.7			
	K	eP			30.3			
	D	iP			31.5			
	D	iP	17	19	35.7			
FEB.16	T	eP			47.3			
	K	eP			54.7			
	T	eP	18	02	38.0			
	D	eP			47.5			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB.17	D	eP	00	44	18.6	*	1.1	190
	K	eP			20.5			
	T	eP			21.6			
	T	eP	01	11	17.3			
	D	eP			27.4			
	K	eP			32.8			
	K	eP	10	22	18.9	*	1.2	320
	T	eP			22.5			
	D	eP			24.3			
	K	eP	16	43	41.7			
	D	eP			55.0			
	T	eP			55.7			
FEB.18	T	eP	16	50	49.0			
	D	eP			56.0			
	K	eP	23	51	05.8	*		
	D	eP	02	39	29.2			
	T	eP			33.3			
	K	eP			37.9			
	K	eP	02	47	14.3	*		
	D	eP			19.6		0.5	20
	T	eP			21.9			
	K	eP	06	51	11.5	*		
	D	eP			15.5		0.5	40
	T	eP			18.7			
FEB.19	K	iP	08	50	58.0	*		
	T	iP		51	03.8			
	D	iP			06.2			
	K	iP	14	36	26.5			
	T	eP			38.9			
	D	iP			40.0			
	T	eP	17	21	58.6	*		
	K	iP	02	17	20.1			
	T	iP			20.7			
	D	iP			23.5			
	K	eP	02	31	43.7	*		
	D	eS		34	42.0			
FEB.20	T	eP		31	53.2			
	D	eS		34	52.8			
	T	eP		31	53.9		0.5	10
	D	eS		34	53.6			
	D	eP	16	22	02.4			
	T	eP			06.9			
	K	eP			11.9			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB.19	T	iP	17	18	26.1			
	D	iP			36.3			
	K	eP			36.9			
	T	eP	18	28	21.4			
	D	eP			32.4			
	K	iP	22	23	26.8	*		
	D	iP			30.0			
		ePP			43.0			
		ePcS		28	47.9			
		ePPcS		29	17.1			
		eS		30	40.0			
		eScS		33	16.3			
		ePPScS		33	50.3			
	T	iP		23	33.6		0.8	320
	K	eP	23	35	35.5	*		
	D	iP			40.4			
		ePP		37	55.1			
		eS		41	31.9			
		eSS		42	05.0			
	T	eP		35	43.9		1.0	150
FEB.20	T	iP	00	36	36.7			
	D	iP			39.8			
	K	eP			49.9			
	K	eP	08	42	02.0			
	T	eP			16.1			
	D	eP			16.6			
	D	eP	12	17	12.9	*		
	K	eP			14.5			
	T	eP			21.0		1.1	40
	K	iP	12	54	15.9			
	D	iP			22.2			
	T	iP			23.4			
	D	eP	15	27	45.3	*		
		eX		28	57.9			
	T	eP		27	49.4		1.2	70
		eX		29	01.0			
	K	eP		27	53.4			
	T	iP	16	57	59.4			
FEB.21	D	iP		58	09.1			
	K	eP			12.3			
	T	iP	20	40	05.0			
	D	iP			07.2			
	K	iP			14.0			
	T	iP	03	02	52.4			
	K	eP			52.9			
	D	iP			57.4			

Date	Station	Phase	Time(G.M.T)	*	T	Am
FEB.21	D	eP	05 31 22.0	*	1.4	2.65
	T	iP	32.3			
	K	eP	41.5			
FEB.21	K	eP	06 13 09.1			
	T	eP	21.2			
	D	eP	21.3			
FEB.21	K	eP	09 16 39.1	*		
	D	eP	49.9			
	T	eP	20 50.1		0.5	3.0
FEB.21	T	iP	10 08 16.8			
	D	iP	19.9			
	K	iP	26.2			
FEB.21	D	eP	12 46 49.9	*		
	T	eP	54.1		1.2	4.0
FEB.21	K	eP	13 30 20.6			
	D	eP	30.3			
	T	eP	31.3			
FEB.21	D	eP	18 48 58.5			
	T	eP	49 00.9			
FEB.21	K	iP	19 33 32.0			
	T	iP	44.0			
	D	iP	45.2			
FEB.22	T	iP	00 48 23.3			
	D	iP	34.4			
	K	iP	35.5			
FEB.22	T	iP	07 31 22.1			
	D	iP	28.3			
	K	eP	30.1			
FEB.22	K	iP	08 47 07.3			
	T	iP	20.3			
	D	iP	22.3			
FEB.22	T	iP	12 31 13.0			
	D	eP	20.7			
	K	eP	27.1			
FEB.22	T	iP	14 18 13.4			
	D	iP	23.5			
	K	eP	27.1			
FEB.22	D	eP	14 04 06.6			
	T	eP	14 54 13.0	*	0.5	1.1
	D	eP	27.2			
FEB.22		eS	57 26.1			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB.22	K	iP	18	36	52.2	*	1.4	265
	T	eP			58.5			
	D	eP			59.5			
FEB.23	D	eP	06	09	54.5	*		
	T	eP	11	18	47.9			
	D	eP			49.4			
	D	eP	14	29	58.4	*		
	T	eP			02.9			
	T	eP	19	02	03.1	*		
	D	eP			06.9			
	D	eP	20	42	17.1	*		
	T	eP			24.4			
FEB.24	K	eP	10	50	06.2	*		
	D	eP			10.5			
	T	eP			14.4		0.5	33
	K	eP	15	27	27.3			
	T	eP			40.7			
	D	eP			41.4			
FEB.25	T	eP	00	15	23.2			
	D	eP			26.9			
	K	eP			36.6			
	D	eP	00	50	49.0			
	T	eP			53.0			
	K	eP			55.1			
	T	eP	09	13	38.3			
	D	eP			47.2			
	K	eP	11	28	00.5	*		
		ePcP		30	16.7			
	D	eP		28	04.0			
		ePcP		30	17.6			
		eS		33	55.4			
	T	eP		28	07.4		1.3	180
		ePcP		30	18.8			
	K	eP	11	45	58.1	*		
		ePcP		48	11.9			
	D	eP		45	59.6			
		ePcP		48	13.3			
		eS		51	45.9			
	T	eP		46	03.2		1.0	88
		ePcP		48	14.6			
	T	iP	17	12	33.9			
	D	iP			42.5			
	K	eP			45.4			
	T	eP	21	45	12.9			
	D	eP			20.1			

Date	Station	Phase	Time(G.M.T)			*	T	Am
FEB.26	T	iP	01	07	17.6			
	K	eP			24.6			
	D	eP			28.7			
	D	eP	04	06	18.7	*		
		ePP			35.5			
	T	eP			22.3		0.5	220
		ePP			37.9			
	K	eP			28.7			
		ePP			43.9			
	T	eP	18	31	06.6			
FEB.27	K	eP			17.4			
	D	eP			17.6			
	D	eP	02	49	29.5	*		
	K	iP	05	44	17.5			
	T	iP			26.1			
	D	iP			30.5			
	T	eP	09	37	13.4			
	D	eP			23.0			
	K	eP			28.1			
	K	eP	09	57	22.2			
FEB.28	D	eP			28.0			
	T	eP			31.1			
	T	eP	10	36	48.2			
	D	eP			52.6			
	T	iP	05	00	06.2			
	D	iP			11.0			
	K	eP			16.0			
	K	eP	09	38	02.8			
	T	eP			15.1			
	D	eP			17.9			
FEB.29	T	eP	10	23	19.2			
	D	eP			29.9			
	T	eP	11	15	24.0			
	D	eP			33.7			
	D	iP	19	14	51.5			
	T	eP			00.3			
	K	eP			11.3			

Date	Station	Phase	Time(G.M.T)			*	T	Am
MAR. 1	D	iP	04	00	58.6	*	1.0	95
	T	eP		01	08.1			
	K	eP			17.9			
	K	eP	09	22	44.9	*	0.7	145
	T	eP			52.5			
	D	eP			56.9			
	K	eP	09	53	48.1			
	D	eP			56.0			
	T	iP			57.7			
	T	iP	13	13	17.3			
	D	iP			20.7			
	K	iP			26.1			
MAR. 1	T	iP	13	54	06.3			
	D	iP			15.7			
	K	eP			16.7			
	D	eP	14	31	26.6	*	0.5	14
	T	eP			29.5			
	D	iP	18	40	11.7			
	T	eP			21.0			
	K	eP			30.7			
	T	iP	18	46	28.4			
	D	iP			31.7			
	K	eP			37.3			
	D	iP	19	34	48.9			
MAR. 2	T	eP			57.9			
	K	eP		35	08.1			
	T	eP	21	14	32.8			
	D	eP			42.6			
	T	eP	01	44	08.8			
	D	eP			17.3			
	T	eP	03	06	26.6	*	1.2	69
	D	eP			28.5			
	K	eP			29.0			
	D	eX	03	30	13.9	*		
	T	iP	03	46	37.8			
	D	iP			48.4			
	K	eP			49.9			
MAR. 2	K	iP	08	17	57.2			
	T	iP			58.1			
	D	iP		18	01.0			
	D	eP	13	10	54.7			
	T	eP		11	04.1			
	K	eP			13.7			

Date	Station	Phase	Time(G.M.T)			*	T	Am
MAR.2	T	eP	20	52	29.2	*	1.0	95
	D	eP			36.0			
	K	eP			43.6			
	T	eP	23	08	40.1	*	0.7	143
	D	eP			45.8			
	K	eP			54.9			
MAR.3	K	iP	00	06	25.4			
	T	eP			34.8			
	D	eP			40.1			
	D	iP	11	45	09.9			
	T	iP			21.4			
	K	eP			28.8			
	K	eP	14	27	26.4			
	D	eP			38.6			
	T	eP			38.9			
MAR.4	T	iP	00	50	54.7			
	D	iP		51	02.9			
	K	eP			08.2			
	D	iP	05	13	58.9	*		
		ePP		14	04.2			
		eS		17	48.6			
	K	eScP		21	24.5			
	T	eP		14	01.6		0.5	110
		ePP			03.3			
	K	iP	06	26	58.8	*		
	T	iP		27	02.9		1.0	545
	D	iP			05.4			
		eS		35	55.1			
	D	eX	15	07	01.0	*		
	D	eP	18	10	32.9	*		
	K	eP			34.5		1.6	623
	T	eP			34.7			
	K	eP	20	22	15.0			
	T	eP			28.6			
	D	eP			29.8			
	D	eP	22	47	14.3	*		
	D	iP	18	34	00.2			
	T	eP			10.6			
MAR.5	K	eP			19.8			
	K	eP	18	59	56.8			
	D	eP	19	00	03.2			
	T	eP			05.6			
	D	eP	20	20	15.1	*		
	T	eP			18.0			

Date	Station	Phase	Time(G.M.T)			*	T	Am
MAR. 6	K	iP	04	41	42.1			
	D	iP			47.1			
	T	iP			50.0			
	D	eP	05	00	42.4			
	K	eP			44.2			
	T	eP			46.7			
	D	iP	12	22	51.3			
	T	eP		23	02.5			
	K	eP			11.6			
	T	eP	19	59	04.8			
	D	eP			15.0			
MAR. 7	K	eP	07	30	58.8			
	D	eP		31	06.3			
	T	eP			08.0			
	K	eP	08	32	00.0			
	D	eP			11.2			
	T	eP			12.2			
	K	eP	09	36	27.7			
	D	eP			35.4			
	T	eP			37.0			
	T	iP	11	40	17.4			
	D	iP			27.6			
	K	eP			31.2			
MAR. 8	T	eP	02	23	28.2			
	D	eP			33.9			
	K	eP	07	03	45.3			
	D	eP			56.3			
	T	eP			57.3			
	K	iP	12	05	28.3			
	D	iP			28.3			
	T	iP			32.5			
	T	iP	22	01	17.5			
	D	eP			24.7			
	T	eP	22	25	36.3			
	D	eP			43.5			
MAR. 9	K	eP	07	07	44.6	*		
	T	eP			47.7			
	D	eP			51.3			
	K	eP	11	52	51.2			
	D	iP			52.2			
	T	iP			56.0			
	K	eP	13	40	19.6			
	T	eP			32.4			
	D	eP			33.0			

Date	Station	Phase	Time(G.M.T)			*	T	Am
MAR. 9	T	iP	14	21	21.8			
	D	iP			32.6			
	K	eP			32.9			
	K	eP	18	11	51.1	*		
	T	eP			59.0			
	D	eP			59.5			
	T	iP	20	41	45.5			
	D	iP			48.6			
	K	eP			54.0			
	T	eP	21	07	57.9			
	D	eP			59.8			
	T	eX	21	36	22.5	*		
	D	eX			24.6			
	K	eP	18	11	51.1			
	T	eP			59.0	*		
	D	eP			59.5			
	T	iP	20	41	45.5			
	D	iP			48.6			
	K	eP			54.0			
	T	eP	21	07	57.9			
	D	eP			59.8			
	T	eX	21	36	22.5	*		
	D	eX			24.6			
MAR. 10	K	iP	00	32	59.9			
	D	iP		33	06.8			
	T	iP			08.8			
	K	iP	01	55	23.0			
	D	iP			27.0			
	T	iP			29.9			
	D	eP	06	43	46.2			
	T	iP	07	02	23.3			
	D	iP			33.6			
	K	eP			36.6			
	T	iP	12	36	53.2			
	K	iP		37	00.1			
	D	eP			04.6			
	D	iP	14	17	15.2			
	K	iP			16.2			
	T	iP			19.5			

Date	Station	Phase	Time(G.M.T)			*	T	Am
MAR.10	T	iP	21	58	54.0			
	D	eP		59	01.5			
	K	eP			08.7			
MAR.11	K	iP	08	42	33.0			
	T	iP			39.0	*	1.8	370
	D	iP			41.9			
MAR.12	T	eX	17	04	18.0	*		
	T	iP	01	28	18.0	*	1.2	144
	D	iP			24.8			
	T	iP	02	53	33.2			
	D	iP			40.8			
	K	iP			45.7			
	K	iP	11	47	10.4			
	T	iP			24.0			
	D	eP			24.2			
	D	iP	17	58	02.3			
	T	iP			12.1			
	K	iP			22.1			
	K	iP	23	31	30.0			
	T	iP			31.0			
	D	iP			34.0			
MAR.13	T	iP	00	10	38.0			
	D	eP			56.0			
	K	eP		11	02.0			
	T	iP	04	23	25.9			
	D	iP			27.6			
	K	iP			38.0			
	K	eP	07	39	38.2			
	D	eP			45.2			
	T	eP			47.3			
	T	eP	14	51	50.2	*		
	D	eP			56.0			
	T	eP	16	26	47.0	*	1.3	150
	K	eP			47.0			
	D	eP			49.3			
	T	eP	19	35	00.3	*	1.8	220
	D	eP			03.7			
	T	eP	20	47	23.7			
	T	iP	21	27	08.3			
	D	eP			15.5			
	K	eP			22.6			

Date	Station	Phase	Time (G.M.T)			*	T	Am
MAR. 13	T	iP	23	02	57.3			
	K	iP		03	04.0			
	D	iP			08.2			
	D	iP	23	55	47.1			
	K	iP			54.4			
	T	iP			56.5			
MAR. 14	D	eP	07	05	25.7	*		
	T	eP			30.3		1.1	92
	K	eP			34.1			
	K	eP	09	04	40.6			
	D	eP			47.1			
	T	eP			49.3			
	D	eP	11	43	17.7	*		
	T	eP			18.4			
	K	eP	23	34	49.0	*		
	T	eP			53.9			
	D	eP			56.0			
MAR. 15	T	eP	06	49	50.5	*		
	D	eP			52.1			
MAR. 16	D	eP	09	58	20.2	*		
	T	eP			21.1			
	K	eP	12	20	05.9	*		
	T	eP			11.0		1.4	115
	D	eP			12.4			
	K	eP	15	44	22.2			
	D	eP			23.8			
	T	eP			27.9			
	K	eP	17	41	54.8	*		
	T	eP			59.1		1.2	38
	D	eP		42	01.1			
	T	eP	18	03	29.1			
	D	eP			32.3			
	K	eP			43.1			
MAR. 17	T	eP	02	24	05.6			
	D	eP			13.2			
	K	eP			19.3			
	T	iP	07	43	54.0			
	K	eP			59.6			
	D	iP		44	04.9			

Date	Station	Phase	Time(G.M.T)			*	T	Am
MAR.17	D	eP	11	32	23.3	*		
		ePP		34	03.1			
		ePcP			32.8			
		eS		38	41.0			
		eScS		42	38.1			
	T K	eP		32	24.6		1.4	69
		eP			35.4			
		iP	11	35	04.2			
		iP			04.8			
		eP			13.1			
MAR.18	K D T	eP	12	14	04.5			
		eP			14.0			
		eP			15.1			
	T D K	iP	13	55	23.9		1.2	52
		eP			31.6			
		eP			38.2			
	T D K	eP	10	56	11.7			
		iP	17	50	00.6			
		iP			05.2			
MAR.19	K D T	iP			10.4			
		iP	19	08	25.7			
		eP			30.3			
	K D T	eP			35.5			
		eP	19	23	12.7		1.0	87
		eP			20.5			
		eP			21.2			
	T D K	iP	20	17	23.9		0.5	92
		iP			28.6			
		iP			33.8			
MAR.19	K D T	eP	21	21	30.8			
		eP			35.5			
		eP			38.9			
	T D K	eP	22	26	36.0			
		eP			46.2			
	K D T	eP	01	18	37.2	*	1.1	236
		iP			42.9			
		iP			46.0			
MAR.19	T D K	eP	04	04	28.4		0.5	40
		eP			37.7			
		eP			43.6			
	T D K	eP	04	28	42.1			
		eP			52.5			
	T D K	eP	08	21	14.4			
		eP			23.9			
		eP			29.2			

Date	Station	Phase	Time(G.M.T)			"	T	Am
MAR.19	T	eP	14	08	59.0			
	D	eP		09	09.5			
	K	eP			12.8			
	K	eP	14	12	44.7			
	D	eP			46.8			
	T	eP			50.8			
	T	eX	17	31	39.6	*		
	T	iP	21	15	27.7			
	K	iP			34.0			
	D	iP			37.9			
MAR.20	D	eP	05	16	58.8	"		
	D	eP	08	55	49.2	"		
	T	eP			49.6		1.2	52
	T	iP	09	07	35.0			
	D	iP			39.6			
	K	iP			44.7			
	T	eP	09	33	29.8	"		
	D	eP			38.8			
	T	eP	11	35	36.6			
	D	eP			46.3			
	T	eP	13	34	27.7	"		
		eX			41.6			
		eX			56.2			
	D	eP			36.5			
	K	eP			44.7			
	T	eP	13	43	47.6	"		
		eX			59.4		0.5	92
		eX		44	11.3			
	D	eP		43	56.5			
		eX		44	10.7			
	K	eP			04.2			
	T	eP	13	55	01.1	"		
		eX			10.6			
		eX			28.0			
	D	eP			10.1			
	K	eP			15.2			
	T	eP	14	47	13.4	"		
	D	eP			24.4			
	T	eP	15	49	18.4	"	0.5	40
	D	eP			27.3			
	K	eP			31.6			
	T	eP	16	14	52.5	"		
	D	eP		15	00.2			

Date	Station	Phase	Time(G.M.T)			"	T	Am
MAR.20	T	ep	17	14	29.0	"		
	D	ep			40.2			
	K	ep	19	17	58.2	"	1.6	213
	T	ep		18	03.3			
	D	ep			04.1			
	T	eP	20	23	13.3	"		
	T	iP	21	54	58.2			
	D	iP		55	01.0			
	K	iP			07.8			
	T	iP	01	02	08.8			
MAR.21	D	iP			11.4			
	K	eP			18.2			
	K	iP	14	02	23.0			
	T	iP			23.1			
	D	iP			27.2			
	D	iP	15	05	17.4			
	T	iP			29.6			
	K	iP			31.0			
	T	eP	19	20	22.1			
	D	eP			32.5			
MAR.22	K	eP			34.4			
	T	eP	06	27	09.4			
	D	eP			16.5			
	K	eP			23.8			
	D	eP	13	08	10.5	"	0.5	10
	T	eP			10.7			
	T	eP	13	44	52.1	"		
	D	eP		45	01.4			
	T	eP	15	07	18.3			
	T	eP	15	09	50.5	"	0.5	27
MAR.23	T	eP	21	32	04.7			
	D	eP	04	12	58.1			
	K	eP		13	00.5			
	K	eP	07	06	26.3			
	D	eP			34.1			
	K	eP	09	08	08.6	"		
	D	iP			10.6			
		ePP			20.5			
		ePcP		10	02.7			
		epPcP			10.1			
MAR.24		eS		14	26.6			
		eScS		17	00.9			

Date	Station	Phase	Time(G.M.T)			"	T	Am
MAR.24	K	iP	11	54	02.5	"		
	D	iP			04.9			
		ePP			15.0			
		ePcP		55	57.9			
		eS	12	00	21.2			
MAR.27	K	eP	12	29	21.7	"		
	D	eP			32.6			
	D	eP	16	33	46.1			
	T	eP			56.8			
	K	eP		34	07.5			
	T	eP	17	34	20.3			
	D	eP			29.8			
	T	iP	17	57	28.8			
	D	iP			29.2			
	K	iP			35.1			
	K	eP	18	31	13.3			
	T	eP			26.1			
	D	eP			27.4			
MAR.28	K	eP	22	51	29.5	"		
	D	eP			36.6			
	T	eP			39.1			
	K	eP	23	09	41.0			
	T	eP			46.2		0.5	19
	D	eP			46.6			
MAR.25	D	iP	04	07	06.3	"		
	T	eP			17.5			
	K	eP			25.5			
MAR.29	D	eP	06	06	21.3	"	Explosion?	
	T	iP			24.2		0.5	71
	K	eP			30.5			
	D	eP	07	39	22.5	"		
	K	eP			23.5			
	D	eP	22	50	59.3	"		
	K	eP		51	08.1			
MAR.26	K	eP	00	18	31.2	"		
	D	eP			38.9			
	K	iP	01	31	07.9	"		
	D	iP			07.9			
MAR.30	T	eP	12	09	46.7	"		
	D	eP			51.7			
	K	eP	16	24	00.9	"		
	D	eP			08.8			
	T	eP			11.3			

Date	Station	Phase	Time(G.M.T)			"	T	Am
MAR.26	K	iP	21	27	30.0			
	D	iP			37.4			
	T	iP			42.2			
	D	eP	22	47	25.1	"		
MAR.27	D	eP	09	02	34.1	"		
	K	eP			44.7			
	K	eP	10	11	36.4	"		
	D	eP			40.4			
	K	eP	11	22	05.4			
	D	iP			10.5			
	D	iP	11	39	42.9			
	K	iP			51.3			
	T	eP	17	45	14.6			
	D	eP			24.6			
	K	eP	23	18	02.1			
	T	eP			15.6			
	D	eP			16.1			
MAR.28	T	eP	08	25	51.9			
	D	eP		26	00.5			
	K	eP			05.8			
	K	eP	13	56	13.2			
	T	eP			25.6			
	K	eP	23	51	42.3			
	D	eP			50.1			
	T	eP			51.9			
MAR.29	T	eP	10	03	40.5			
	T	eP	10	40	53.1	"	1.1	108
		ePP		41	01.8			
	K	eP		40	57.0			
		eX			57.4			
	D	eP			59.3			
	K	eP	17	19	18.5	"	0.5	19
	T	eP			22.6			
	D	eP			25.0			
	T	iP	17	20	34.7			
	D	iP			45.5			
	K	eP			46.7			
MAR.30	K	eP	02	17	05.4	"		
	D	eP			09.5		0.5	58
	T	eP			11.9			

Date	Station	Phase	Time(G.M.T)			"	T	Am
MAR.30	D	iP	07	10	11.2			
	K	eP			11.4			
	T	iP			15.2			
	T	eP	07	56	23.3			
	D	eP			34.5			
	T	eP	12	57	00.1			
	D	eP			03.6			
	T	eP	15	35	14.5			
	D	eP			23.0			
	K	eP	21	12	55.7			
MAR.31	D	eP		13	02.4			
	T	eP			04.6			
	T	eX	23	15	27.7	"	1.2	84
	T	eP	02	19	38.3	"	1.1	70
	D	eP			44.8			
	T	eP	09	21	34.5	"	0.5	21
	D	eP			40.7			
	D	iP	15	09	00.8			
	T	eP			12.1			
	K	eP			20.1			
	K	eP	20	14	50.0	"	0.5	14
	T	eP			55.7			
	D	eP			57.2			
	K	iP	21	07	19.9			
	D	iP			28.8			
	T	iP			32.5			
	K	iP	22	32	25.1			
	D	iP			35.0			
	T	iP			38.0			
	K	eP	22	32	53.4			
	D	eP		33	02.9			
	T	eP			06.6			

9 OCT 1967

Preliminary Bulletin of the Dodaira Earthquake Observatory

and its Substation

April, 1967

**EARTHQUAKE RESEARCH INSTITUTE
THE UNIVERSITY OF TOKYO**

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : Am : Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.

 T : Period in sec of the measured

 " : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time(G.M.T.)			"	T	Am
APR. 1	T D K	eP	05	57	169	"	0.5	52
		eX			275			
		eP			254			
	T D K	eP	07	51	298	"		
		eP			342			
		eP			433			
	T D K	eP	12	26	311	"	0.5	71
		eX			419			
		eP			405			
	T D K	eP	14	03	333	"	0.5	31
		eP			425			
		eP			455			
APR. 2	T D K	eP	17	18	411	"		
		eP	17	23	521	"		
		eP		24	084			
	T D K	eP	11	14	230	"		
		eP			318			
		iP	12	49	223			
	T D K	iP			340			
		iP			365			
		eP	17	48	388	"	0.5	9
	T D K	eP			406			
		iP	19	47	453			
		iP			555			
APR. 3	T D K	eP	04	49	305	"	0.5	15
		eP			341			
		eP	08	12	169	"		
	T D K	ePcP		14	075			
		eP		12	166			
		epP			248			
	T D K	ePcP		14	093			
		epPcP			193			
		eP	13	09	557	"	1.0	44
	T D K	eP		10	011			
		eP			015			
		eP						
APR. 4	T D K	eP	00	44	467	"		
		epP			504			
		eP			473			
	T D K	eP			478	"	1.0	70
		epP			537			
		eP	03	57	243	"	0.5	13

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 4	D	eP	143 32.3			
	D	eP	04 37 50.7			
	K	eP	09 06 59.3			
	D	iP	07 01.2			
	T	iP	04.9			
	T	iP	14 17 05.1	0.5	6.9	
	D	iP	10.1			
	K	eP	15.6			
APR. 5	K	eP	02 37 57.0	"		
	T	eP	38 09.2			
	D	eP	10.9			
	K	eP	02 51 41.4	"	0.5	5.8
	T	eP	53.3			
	D	eP	53.9			
	K	eP	06 17 54.6			
	T	eP	18 05.1			
	D	eP	05.3			
APR. 7	T	iP	07 14 55.2			
	K	eP	15 04.9			
	D	iP	06.1			
	D	iP	07 57 45.7			
	T	iP	50.9			
	K	eP	53.5			
	T	eP	12 29 41.6	0.5	9	
	D	eP	49.8			
	D	iP	23 50 33.4			
	T	iP	37.8			
	K	eP	49.2			
APR. 6	D	eP	02 36 53.8	"		
	K	eP	58.9			
	T	eP	37 01.9			
	K	iP	06 17 51.3			
	D	iP	59.2			
	T	iP	18 03.5			
	K	iP	08 35 24.1			
	T	iP	25.8			
	D	iP	30.0			
	K	iP	08 49 59.2			
	D	iP	50 07.4			
	T	iP	11.7			
APR. 7	K	iP	09 07 04.2			
	D	iP	12.2			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 7	T	iP		163		
	T	eP	10 58	54.3		
	D	eP	59	01.9		
	T	eP	12 13	07.3		
	K	eP	12 25	46.1		
	T	eP		56.0	0.5	6 9
	D	eP		58.3		
	K	iP	22 47	37.6		
	D	iP		45.3		
	T	iP		49.8		
	K	iP	23 29	13.3		
	D	iP		21.2		
	T	iP		25.3		
	T	iP	23 32	21.6		
	K	iP		22.6		
	D	iP		29.7		
APR. 7	K	iP	00 51	04.0		
	D	iP		12.1		
	T	eP		16.8		
	D	eP	12 32	45.3		
	T	eP		49.7		
	K	eP		55.7		
	K	eP	16 39	27.4		
	T	eP		29.3	0.5	9
		epP		40.4		
	D	eP		34.5		
APR. 7	T	iP	19 41	51.6		
	D	iP		57.7		
	K	eP	42	04.5		
	T	eP	04 07	30.2		
	D	eP		39.6		
APR. 8	K	eP	05 45	14.5		
	T	eP		19.5		
	D	eP		20.6	1.3	2 3 6
		eX	46	38.6		
		ePP	47	26.6		
		epPP		56.4		
		eS	53	41.2		
	D	eP	20 20	16.0		
	T	eP		19.3		
	K	eP	00 12	40.5		
APR. 9	D	eP		42.2		
		epP		47.0		

Date	Station	Phase	Time(G.M.T.)		"	T	Am
APR. 9		eX	13	36.0			
		ePP	14	48.0			
		epPP		53.0			
	T	eP	12	43.2		1.0	5.0
		epP		47.2			
	T	eP	09	05 01.3	"	0.5	1.3
	K	eP	09	05 13.8	"		
	D	eP		19.2			
		eX	06	57.4			
	T	eP	05	19.3		1.3	3.4 3
APR. 11	T	eP	15	36 17.9			
	D	eP		27.6			
	K	eP		29.8			
	T	eP	15	55 50.3			
	D	eP		58.7			
	K	eP	17	49 43.2	"		
	D	eP		49.1			
	T	eP		51.8		0.5	3.8
	T	iP	19	56 20.1			
	D	iP		25.0			
	K	eP		30.1			
	T	eP	21	26 54.8	"	0.5	5.7
		ePcP		29 14.4			
	D	eP		26 55.0			
		ePcP		29 14.6			
APR. 10	T	eX	18	59 25.3	"		
	K	eP	05	06 33.6			
	T	eP		46.3			
	D	eP		49.1			
	T	eP	05	08 14.4	"	1.3	1.5 5
	D	eP		14.5			
	T	eP	05	19 22.0	"	0.5	2.1
	D	eP		22.5			
	T	iP	06	37 41.5			
	D	iP		50.6			
	K	eP		52.3			
	K	eP	15	10 55.8	"		
	T	iP		11 01.9		1.4	4.2 6
		epP		11.8			
APR. 12	D	eP		02.3			
		eS	16	35.9			
	T	eP	18	33 07.5	"	0.5	1.9
	D	eP		08.0			

Date	Station	Phase	Time(G.M.T.)	T	Am
APR. 10	T	eP	20 06 01.6	1.1	7.4
		ePcP	07 26.1		
		eP	06 06.9		
	D	ePcP	07 29.7	0.5	4.0
		eS	13 02.4		
		eP	06 09.8		
	K	eP	21 57 34.4	0.5	4.0
		eP	14 39.0		
		eP	148 40.3		
	T	eP	22 31 50.1	0.5	4.0
		eP	114 57.5		
		eP	147 57.5		
APR. 11	T	iP	00 58 05.9	0.5	4.0
		iP	16 15.6		
		eP	19.6		
	D	iP	06 33 47.3	0.5	4.0
		iP	52.5		
		iP	56.1		
	T	iP	09 02 19.0	0.5	4.0
		iP	28.4		
		eP	31.5		
	K	eP	13 44 17.5	0.5	4.0
		eP	04 30.3		
		eP	31.6		
APR. 12	D	iP	17 40 10.0	0.5	4.0
		iP	21.8		
		eP	28.9		
	K	iP	19 54 48.4	0.5	4.0
		iP	56.2		
		iP	57.9		
	D	eX	22 54 56.6	0.5	4.0
		eP	02 32 42.5		
		iP	45.4		
	K	iP	20 45.6	0.5	4.0
		iP	47.2		
		iP	57.3		
APR. 12	T	eP	03 57 47.2	1.2	2.35
		iP	57.3		
		eP	58 00.9		
	D	eP	05 00 30.3	1.2	2.35
		eX	45.0		
		ePcP	01 30.3		
	T	eS	07 46.0	1.2	2.35
		eP	00 35.0		
		eX	49.5		
	K	eP	35.6		
		eP	35.6		
		eP	35.6		

Date	Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 12	APR. 12	K	iP	11 04 06.6			
		D	iP	11 04 09.6			
		T	iP	11 04 12.8			
APR. 14	APR. 14	K	eP	13 54 19.3	"	1.6	135
		T	eP	13 54 24.0			
		D	eP	13 54 24.4			
		K	eP	14 03 10.0	"		
		D	eP	14 03 14.8			
		T	eP	14 03 14.9		1.2	132
		T	eP	15 00 11.6	"	1.5	107
		D	eP	15 00 12.4			
		T	iP	16 44 52.0			
		D	iP	16 44 56.6			
		K	iP	16 45 02.0			
		K	eP	17 18 55.5			
		D	eP	17 19 03.1			
		T	eP	17 19 04.9			
		D	iP	23 04 12.2			
		T	iP	23 04 21.4			
		K	iP	23 04 32.6			
APR. 13	APR. 13	T	eP	04 24 35.0	"	1.0	32
		D	eP	04 24 37.8			
		K	eP	11 26 51.8	"		
		D	eP	11 27 03.2			
		T	eS	13 15 29 37.4			
		T	eP	13 15 27 03.3		0.5	13
		T	eP	18 44 40.3	"	0.5	126
		D	eP	18 44 47.1			
		K	eP	18 44 50.6			
		D	eP	19 56 42.1	"		
			epP	19 56 53.3			
			eS	19 59 31.0			
			eScS	20 09 23.2			
			esScS	20 09 50.4			
		K	eP	19 56 43.9			
		T	eP	19 56 49.2		1.2	290
		K	iP	22 06 12.6			
		D	iP	22 06 14.5			
		T	iP	22 06 19.4			
		K	iP	23 50 24.5			
		D	iP	23 50 24.7			
		T	iP	23 50 28.0			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 13	D	iP	23 58	29.6		
	T	eP		40.8		
	K	eP		49.2		
APR. 14	K	eP	00 06	59.2		
	D	eP		07 02.4		
	T	eP		03.3		
APR. 17	K	eP	03 56	36.8		
	D	eP		37.3		
	T	eP		41.2		
	D	eP	08 35	20.3		
	T	eP		24.4		
	K	eP		29.7		
	D	iP	09 05	12.9		
	T	iP		24.3		
	K	eP		31.9		
	D	iP	09 19	47.6		
	T	iP		59.0		
	K	eP		20 05.2		
	D	iP	09 43	49.3		
	T	iP		44 00.3		
	K	eP		08.3		
	T	iP	12 36	40.6		
	D	iP		50.5		
	K	eP		53.2		
APR. 18	K	iP	13 15	10.7		
	T	iP		10.8		
	D	iP		15.1		
	T	iP	17 10	42.8		
	D	iP		50.9		
	K	iP		51.8		
APR. 15	D	iP	10 38	35.3		
	T	iP		36.8		
	K	iP		39.5		
	K	eP	11 10	56.5		
	D	eP		58.7		
	T	eP		11 02.5		
	T	eP	23 37	17.0		
	D	eP		24.8		
	K	eP		31.2		
APR. 16	T	eP	10 13	25.5		
	D	eP		33.6		

0.5 19

Date	Station	Phase	Time(G.M.T.)			"	T	Am
APR. 16	K	eP	11	24	50.4			
	T	eP		25	01.0			
	D	eP			02.4			
	T	eP	20	27	26.2			
	T	eP	22	29	07.7			
	K	eP			16.0			
APR. 17	K	iP	08	42	35.4	"		
	D	iP			44.3			
		eX			51.8			
	T	eP			48.1		0.5	12
	D	eX	11	11	26.4	"		
	K	iP	11	27	37.7	"		
	T	eP			44.3		1.4	157
	D	iP			46.3			
	T	iP	12	01	31.6			
	D	iP			42.0			
	K	eP			44.7			
APR. 20	D							
	K	eP	17	55	58.0	"		
	T	eP		56	02.3		0.5	28
	D	iP			04.6			
	T	iP	22	50	31.4			
	D	iP			40.9			
	K	eP			45.0			
APR. 18	D	iP	00	32	02.5			
	T	iP			04.6			
	K	iP			05.3			
	T	iP	03	57	37.4			
	D	iP			46.4			
	K	eP			50.2			
	T	iP	06	57	26.3			
	D	eP			29.1			
	K	eP			40.5			
	T	eP	09	15	47.0			
	D	eP			54.4			
	D	iP	09	37	12.3			
	T	iP			16.2			
	K	iP			20.4			
	T	eP	14	33	45.7			
	D	iP			55.3			
	K	eP		34	02.6			
	K	eP	16	15	54.3			
	D	eP		16	00.6			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 18	D	eX	14 39 22.4			
APR. 19	D	iP	01 43 05.1			
	T	iP	06.4			
	K	eP	15.0			
	K	eP	01 55 41.1			
	D	iP	41.7			
	T	eP	45.5			
	K	iP	10 25 08.3			
	T	iP	09.3			
	D	iP	12.6			
	T	eP	10 49 43.0	"		
	K	eP	11 02 41.2			
	D	eP	48.6			
	T	eP	50.5			
	T	eP	22 58 53.3			
	D	eP	59 08.1			
APR. 20	D	iP	00 09 02.6	"		
		ePcP	10 54.2			
	T	iP	09 06.3		0.5	77
		ePcP	10 54.8			
	D	eP	04 16 20.7	"		
	T	iP	23.3		Explosion?	
					0.5	96
	D	eP	07 27 18.2			
	T	eP	23.0			
	T	eP	10 19 25.6			
	D	eP	33.5			
	T	eP	11 39 29.0			
	D	eP	29.2			
	T	eP	13 03 05.8			
	D	eP	13.2			
	K	eP	18.5			
	T	iP	14 40 05.9			
	D	iP	10.9			
	K	iP	12.1			
APR. 21	T	eP	04 17 54.2			
	D	eP	18 02.8			
	D	eP	08 22 21.0	"		
	T	iP	24.6		0.5	41
	T	eP	08 54 38.7	"		
	D	eP	45.2		0.5	10

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 21	K	eP	17 49			54.7
	D	iP				58.7
	T	iP	50			01.8
	T	iP	20 24			05.7
	D	iP				11.0
	K	eP				22.2
APR. 22	D	iP	01 04			17.6
	T	eP				29.2
	K	eP				36.9
	D	iP	07 35			50.0
	T	iP				00.0
	K	iP				10.2
APR. 23	D	eP	08 45			23.9
	T	eP			0.5	33
		eX				25.8
		eX				32.5
	D	eP	12 02			22.2
	T	eP				24.6
APR. 24	K	eP	12 02			31.6
	D	eP				39.5
	T	eP			0.5	25
	K	eP	12 42			24.8
	D	eP				31.8
	T	eP			0.5	36
APR. 25	D	eP	13 16			29.8
	K	eP				32.0
	T	eP				34.4
	K	eP	19 49			52.4
		eX				55
		eX				19.2
APR. 26	T	eP	07 05			49
		eP			0.5	20
		eX				58.1
		eX				55
		eP				21.2
		eX				49
APR. 27	D	eP	08 44			59.3
		eX				22.8
	T	eP	22 20			25.8
	T	eP	07 20			46.1
	D	eP				54.8
	K	eP				59.0
APR. 28	T	eP	09 25			18.6
	D	eP				27.2
	K	eP				32.0
	T	eP	09 28			41.7
	D	eP				49.9
	D	eP	12 56			27.4
APR. 29	T	eP				33.5

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 23	D	eP	15 11 40.4	"		
	K	eP	43.3			
	T	eP	45.4		0.5	1 1
	K	eP	17 57 45.7	"		
	D	eP	51.8			
	T	eP	52.6		1.2	8 4
	T	eX	18 21 37.2	"		
	T	eP	19 55 37.2			
		eP	37.9			
APR. 24	D	eP	09 00 21.0	"		
	T	eP	24.5		1.0	3 6
	K	eP	28.9			
	T	eP	13 33 34.5			
	D	eP	38.9			
	T	eP	14 53 19.2			
	K	eP	25.0			
	D	eP	15 14 54.3			
	T	eP	56.4			
	K	eP	15 04.7			
APR. 25	D	eP	18 30 05.2	"		
	T	eP	06.5			
	D	eP	19 00 15.1	"		
	T	eP	20.4			
	K	iP	03 30 12.7			
	T	iP	29.6			
	D	iP	30.4			
	D	eP	07 05 19.6	"		
	T	eP	24.6			
	K	eP	08 44 04.5			
APR. 27	D	iP	08.5			
	T	eP	11.4			
	T	eP	10 38 17.4	"	0.5	1 4
		epP	28.4			
		ePcP	40 17.5			
		epPcP	28.8			
	K	eP	38 22.3			
	D	eP	38 25.0			
		ePcP	40 16.5			
		epPcP	26.9			
APR. 27	K	eP	10 53 34.6	"		
	T	eP	42.5			
	D	eP	44.4			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 25	T	eP	10 56 33.0	"	1.0	8.2
		eX	41.2			
	D	eP	36.8			
		eX	45.4			
	K	eP	12 38 10.4	"		
	T	eP	16.7			
	D	eP	17.7			
	K	iP	14 34 19.6	"		
	D	eP	27.2			
	T	eP	32.7			
	K	eP	15 34 43.1	"		
	T	eP	50.0			
	D	eP	50.7			
	K	iP	16 05 57.4	"		
	T	iP	06 05.8			
	D	iP	10.2			
APR. 26	K	iP	16 07 42.7	"		
	T	iP	51.1			
	D	iP	55.6			
	K	eP	09 37 18.5	"		
	D	eP	29.4			
	T	eP	30.2			
	T	eP	10 49 21.2	"		
	D	eP	30.7			
	D	eP	13 21 47.5	"		
	T	eP	55.8			
	T	eP	16 06 43.9	"		
	D	eP	53.7			
	T	eP	16 47 37.1	"		
	D	eP	45.5			
	T	eP	17 22 54.6	"		
APR. 27	D	eP	23 02.3	"		
	K	eP	09.3			
	T	eP	21 50 57.9	"		
	D	eP	51 06.4			
	D	eP	21 56 55.8	"		
	D	eP	01 01 00.8	"		
	T	eP	06 05 12.8	"		
	D	eP	22.3			
	K	eP	29.8			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
APR. 27	D	eP	08 17 01.4	"		
	T	eP	01.8		1.0	3.0
	K	eP	09 30 23.8			
	D	eP	29.8			
	T	eP	31.9			
	K	eP	16 47 34.0	"		
	D	eP	41.7		0.5	1.1
	T	eP	42.8			
	K	iP	18 45 57.7			
	D	iP	58.0			
	T	iP	46 03.5			
	T	eP	21 01 02.8			
	D	eP	11.4			
	D	iP	01 55 47.5			
APR. 28	T	iP	49.6			
	K	iP	54.7			
	T	eP	03 10 33.6	"	0.5	1.8
		epP	38.0			
	D	eP	41.5			
		epP	45.0			
	T	eP	08 57 55.0			
	D	eP	58 04.6			
	K	eP	10.2			
	D	eP	14 25 10.8			
	T	eP	22.2			
	K	eP	29.7			
	T	iP	20 50 30.0			
	K	eP	37.5			
	D	eP	40.2			
APR. 29	T	iP	00 41 43.0			
	D	iP	54.5			
	T	iP	04 01 53.8	"	1.1	2.83
		eX	02 22.5			
		ePcP	04 35.7			
	D	iP	01 59.9			
		epP	02 05.9			
		iX	25.9			
		ePcP	04 39.3			
		epPcP	50.4			
		eS	07 22.4			
		eScP	08 20.9			
		eScS	12 24.9			
	K	eP	02 01.0			
	K	eP	06 28 48.1	"		
	T	eP	59.3			

Date	Station	Phase	Time(G.M.T.)			T	Am
APR. 29	D	eP		59.5			
	K	eP	08 09	40.0			
	T	eP		52.7			
	D	eP		55.2			
	T	eP	12 32	05.5		1.3	63
	D	eP		11.4			
		eX	42	04.8			
	D	iP	12 53	40.0			
	T	iP		43.0			
	K	iP		48.1			
	D	eP	21 14	46.7			
	T	iP	22 02	22.2			
	K	iP		25.6			
	D	iP		31.5			
	T	iP	22 12	58.0			
	K	iP	13	02.0			
	D	iP		07.7			
	T	iP	22 21	14.2			
	K	iP		18.0			
	D	iP		23.5			
	T	iP	22 39	54.2			
	K	iP		57.9			
	D	iP	40	03.6			
APR. 30	T	iP	01 09	48.7			
	K	iP		52.6			
	D	iP		58.3			
	T	iP	05 11	35.9			
	D	iP		43.4			
	K	eP		50.1			
	D	eX	07 40	04.7			
	K	eP	07 43	51.2			
	D	eP		51.5			
		eX	44	02.7			
	T	eP	09 35	33.1			
	K	eP		41.7			
	D	eP		49.5			
	T	eP	11 20	07.5		1.0	23
	D	eP		12.8			
	T	eP	12 07	28.9			
	T	eP	15 39	33.6			
	D	eP		45.2			

Date	Station	Phase	Time(G.M.T.)	'	T	Am
APR. 30	K	eP	458			
	K	eP	17 06 05.9	'		
	D	eP	14.5			
	T	eP	14.6		1.2	6.2
	D	eP	17 34 29.5	'		
	T	iP	21 31 29.0			
	D	iP	31.7			
	K	eP	38.0			

9 OCT 1967

**Preliminary Bulletin of the Dodaira Earthquake Observatory
and its Substation**

May, 1967

**EARTHQUAKE RESEARCH INSTITUTE
THE UNIVERSITY OF TOKYO**

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : Am : Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.

T : Period in sec of the measured

" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time (G.M.T.)	T	Am
MAY 1	D	iP	06 58	10.5	
	T	iP		12.9	
	K	eP		28.8	
	T	eP	07 21	39.4	1.0 80
		eX		44.5	
	D	eP		39.4	
	K	eP		42.4	
	T	eP	12 52	26.0	
	D	eP		31.2	
	K	eP	16 40	30.8	
	D	eP		39.6	
	T	eP		40.2	
	T	iP	23 37	40.3	
	D	iP		44.4	
	K	eP		48.6	
	K	eP	02 38	11.9	
	D	eP		20.0	
	T	iP		22.2	
MAY 2	T	eP	07 36	36.8	
	D	eP		45.6	
	K	eP	17 17	36.2	
		eX		42.1	
	D	eP		44.0	
		eScP	23	11.0	
		eS		54.7	
		eScS	27	27.9	
	T	eP	17	44.1	0.5 32
		eX		48.5	
	K	iP	22 04	50.1	
	T	iP	05	07.1	
	D	iP		08.1	
	D	eP	09 44	03.3	
	K	eP		03.8	
	T	eP		07.3	
	D	eP	10 20	43.9	
MAY 3	D	iP	11 16	19.4	
	T	iP		29.4	
	K	eP		38.9	
	T	iP	13 31	43.9	
	D	iP		51.2	
	K	eP	04 16	31.8	
	D	eP		39.2	
	T	iP	15 32	39.0	
	D	iP		55.8	

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 4	T	iP	15 32			39.0
	K	eP				48.0
	D	iP				49.0
	K	eP	16 29	"	0.5	51.1
	T	eP				52.6
	D	eP				53.0
	T	iP	20 23			59.5
	D	iP	24			04.7
	K	iP				05.7
	T	iP	21 29			07.1
	D	iP				10.0
	K	iP				15.8
	D	iP	23 25			44.5
	T	iP				56.4
	K	eP	26			04.2
MAY 5	D	eP	23 25			52.4
	T	eP	09 55			04.0
	D	iP				14.6
	K	eP				15.8
	D	eP	12 10			38.4
	K	eP				40.3
	T	eP				43.0
	D	eP	12 44	"		57.9
	K	eP	14 10			25.0
	T	eP				27.8
	D	eP				29.5
	K	eP	15 08	"	1.4	57.0
	T	eP	09			03.6
	D	eP				04.8
		epP				14.8
		eS	16	10	50	19.8
	T	eP	15 19			24.2
	D	eP				31.8
	K	eP				38.8
	T	eP	17 15	"	0.5	00.8
	D	eP				05.5
	K	eP				08.1
	K	eP	17 47	"	0.5	19.5
	D	eP				20.2
		eX	52			25.8
		eX				31.3
		eX	54			46.3
	T	eP	47			23.8

Date	Station	Phase	Time(G.M.T.)	M	T	Am
MAY 5	K	eP	20 19 15.0	15.4		1.0
	T	eP	28.4	21.4		
	D	eP	29.5	25.8		
	K	eP	20 24 57.7	31.1		
	T	eP	25 11.0	41.9		
	D	eP	11.6	44.1		
	K	iP	21 27 49.4	51.9		
	D	iP	50.8	58.4		
	T	iP	52.8	01.7		
MAY 6	T	eP	02 16 21.6	44.8		
	D	eP	31.6	55.3		
	K	eP	33.2	57.5		
	T	eP	04 56 05.5	41.9		
	D	eP	12.0	48.5		
	K	eP	06 42 21.4	52.5		
	T	eP	34.0	59.3		
	D	eP	35.8	62.2		
	T	eP	13 10 51.1	63.1		
	D	eP	55.4	12.8		
	T	eP	13 30 12.9	12.6		
	D	eP	22.9	58.3		
	K	eP	25.0	17.5		
	T	iP	15 49 08.5	14.7		
	D	iP	17.3	23.3		
	T	eP	15 55 16.6	23.6	1.1	4.7
	D	eP	24.9	13.8		
	K	eP	18 40 46.6	17.9		
	T	eP	50.3	58.5		
	D	eP	51.6	47.3		
	T	iP	19 50 09.8	45.1	1.0	5.8
	D	epP	16.8	42.5		
	K	iP	14.4	02.1		
	D	epP	22.1	02.1		
	K	eP	16.6	52.9		
	D	eP	20 36 42.7	05.8		
	T	eP	46.9	04.3		
	K	iP	52.1	07.4		
	T	eP	23 12 45.6	11.4		
	D	eP	54.9	16.5		
MAY 7	K	eP	06 09 29.5	21.3	0.5	1.1
	T	eP	40.1	52.8		
	D	eP	40.6	28.6		
	K	epP	45.1	34.2		
	D	eS	13 04.1			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 7	T	eP	06 48 15.4	"	1.0	5 1
	D	eP	21.6			
	T	eP	07 47 25.8	"		
	D	eP	31.1			
	T	eP	10 24 41.9	"		
	D	eP	44.1			
	T	iP	11 54 51.9			
	K	eP	58.4			
	D	eP	55 01.7			
	T	iP	21 50 44.8			
	D	iP	53.8			
	K	iP	57.5			
MAY 8	T	iP	23 03 41.9			
	D	iP	48.5			
	K	eP	52.5			
	D	eP	03 33 59.3	"		
	D	iP	07 54 52.2			
	T	eP	55 03.1			
	K	eP	12.8			
	D	iP	11 14 57.6			
	T	eP	15 08.5			
	K	eP	17.5			
	D	eP	14 49 16.7	"		
	K	eP	23.5			
	T	eP	25.8		1.1	4 7
	T	eP	18 57 15.0	"		
	K	eP	18.9			
	T	eP	19 25 38.3			
	D	eP	47.3			
	T	eP	21 42 45.1	"		
	D	eP	47.5			
MAY 9	T	eP	21 51 00.3			
	K	eP	22 25 52.9			
	T	eP	26 05.8			
	D	eP	06.3			
	D	iP	03 03 07.4			
	T	iP	11.4			
	K	iP	16.5			
	T	eP	06 17 21.3			
	D	eP	32.8			
	K	eP	28.6			
		eP	34.2			

Date	Station	Phase	Time(G.M.T.)	"	T	Am	Am
MAY 9	T	iP	11 02	06.5			
	D	iP		11.7			
	K	eP		19.8			
	D	eP	12 45	22.8			
	D	eP	15 15	45.3			
	K	eP	16 02	33.5			
	D	eP		40.0			
	T	eP		41.6	0.5	31	
	D	eX	16 09	53.3			
	T	eP	20 25	36.9			
	D	eP		45.3			
	K	eP	21 36	25.8			
	D	eP		27.6			
		eX		38.3			
		epP	37	00.4			
		ePcP	39	14.6			
		eS	41	32.4			
		eX		48.6			
		eScP	42	49.4			
		ePcS	43	01.7			
		eScS	46	49.5			
		epScS	47	32.9			
	T	eP	36	32.5	0.5	52	
		ePcP	39	15.5			
	T	eP	22 44	26.7			
	D	eP		35.8			
MAY 10	T	eP	03 30	45.8			
	D	eP		57.1			
	D	iP	04 12	59.0			
	T	iP		02.0			
	K	eP		15.6			
	T	iP	13 35	43.4			
	D	iP		53.1			
	K	iP		55.3			
	D	eP	15 36	17.2			
	T	iP	19 38	09.9			
	D	iP		15.0			
	K	eP		17.9			
MAY 11	T	iP	00 08	09.2			
	D	iP		14.7			
	K	eP		17.7			
	T	eP	00 17	53.1			
	D	eP		02.3			
			18				

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 11	D	iP	02 28 31.1			
	T	iP	34.4			
	K	iP	40.0			
	T	eP	14 23 15.0			
	D	eP	22.8			
	D	eP	15 00 01.0	"		
MAY 13		eScP	05 21.0			
		eX	34.9			
		eS	07 34.0			
	T	eP	00 03.9		1.0	101
	K	eX	08.2			
		eP	08.1			
		eX	13.0			
	T	eP	15 24 56.5	"	1.0	566
		eX	25 01.5			
		epP	31.8			
	D	eP	24 57.4			
		eX	25 03.1			
	K	eP	24 58.8			
		eX	25 03.6			
	T	iP	16 25 05.6			
	K	iP	11.6			
	D	eP	15.4			
	T	iP	20 52 09.5			
	K	iP	14.5			
	D	iP	14.8			
MAY 14	T	iP	22 22 40.7			
	D	iP	50.4			
MAY 12	K	eP	09 57 46.3			
	D	eP	58 00.0			
	T	eP	01.4			
	T	iP	14 25 57.6			
	D	iP	26 07.6			
	K	eP	13.0			
	K	eP	14 55 38.5			
	D	eP	44.6			
	T	eP	46.9			
	D	iP	15 01 27.4			
	T	iP	36.8			
	K	eP	47.6			
	T	eP	17 06 05.2	"		
	D	eP	14.1			
	T	eP	18 10 20.3	"		
	D	eP	20.5			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 12	T	eP	22 25	43.1		
	D	eP		48.4		
	K	eP		51.1		
	T	eP	23 01	47.7		
	D	eP		49.1		
	K	eP		59.4		
MAY 13	K	eP	04 09	39.8	0.5	1 6
	T	eP		48.7		
	D	eP		49.4		
	K	iP	05 22	56.5		
	T	iP		57.4		
	D	iP	23	05.1		
	T	eP	05 27	35.6	1.4	6 2
	D	eP		40.9		
	K	eP		43.9		
	T	iP	09 19	14.5		
	K	iP		15.1		
	D	iP		22.7		
	K	iP	13 42	46.4		
	T	iP		58.2		
	D	iP		59.1		
	T	eP	22 15	29.6		
	D	eP		39.7		
MAY 14	K	eP	05 13	30.1		
	D	eP		38.7		
	T	eP		40.4		
	T	eP	08 58	13.6	1.2	7 5
		eX		20.4		
		eX		42.4		
	K	eP		15.6		
		eX		23.2		
		eX		45.6		
	T	iP	10 15	36.6		
	K	eP	12 20	58.3		
	T	eP	21	12.1		
	K	eP	12 32	59.4		
		eX	33	08.8		
	T	eP		05.7		
		eX		14.7		
	K	iP	23 56	05.2		
	T	iP		08.0		
MAY 15	K	eP	00 06	33.4		
	T	eP		46.7		

Date	Station	Phase	Time(G.M.T.)	T	Am
MAY 15	K	eP	00 14	16.0	
	T	eP		29.9	
	K	eP	02 28	20.0	
	T	iP		33.6	
	K	eP	02 36	35.2	
	T	iP		49.7	
	K	eP	02 39	24.8	
	T	eP		40.0	
	K	eP	03 11	44.5	
	T	eP		56.8	
	K	eP	03 57	09.9	
	T	eP		23.2	
	T	iP	07 28	05.1	
	K	iP		15.9	
	K	eP	11 52	18.2	
	T	eP		30.8	
	D	eP		32.9	
	K	eP	12 42	43.5	
	T	eP		56.9	
	D	eP		57.7	
MAY 16	K	eP	15 48	46.3	
	T	eP		58.8	
	D	eP	49	00.4	
	T	eP	20 32	09.5	
	T	iP	20 51	08.0	
	D	iP		18.0	
	K	eP		21.2	
	K	iP	22 17	03.2	
	D	iP		03.3	
	T	iP		07.5	
	D	eP	03 13	20.1	
	T	eP		25.6	
	K	eP		30.1	
	K	eP	04 06	41.8	
	T	eP		55.2	
	D	eP		56.8	
	T	iP	04 44	33.5	
	D	iP		34.0	
	K	iP		40.4	
	T	eP	05 11	15.6	
	D	eP		25.1	

Date	Station	Phase	Time (G.M.T.)	T	Am
MAY 16	K	eP	30.1		
	K	iP	05 21 37.4		
	D	iP	49.0		
	T	iP	49.2		
	T	iP	09 32 58.4		
	D	iP	33 09.1		
	K	eP	09.6		
	T	iP	13 22 54.4		
	K	iP	23 03.4		
	D	eP	04.8		
	T	eP	16 25 17.3		
	D	eP	20.0		
	K	iP	17 18 02.9		
	D	iP	10.5		
	T	iP	12.3		
	K	eP	19 25 42.3		
	D	eP	56.9		
	T	eP	57.5		
	K	iP	22 33 02.8		
	D	eP	15.5		
	T	iP	16.1		
	T	eP	19 37 00.9		
	D	eP	09.1		
MAY 17	K	eP	03 03 18.6		
	T	eP	28.1		
	T	iP	03 57 53.9		
	K	iP	57.7		
	D	eP	58 01.2		
	T	iP	07 36 44.4		
	D	iP	53.8		
	K	eP	55.8		
	T	eP	08 31 02.9		
	D	eP	11.5		
	T	eP	09 26 11.9		
	D	eP	22.0		
	T	iP	09 36 21.7		
	D	iP	31.9		
	K	eP	35.5		
	T	eP	09 46 55.5		
	D	eP	47 05.3		
	K	eP	13 05 38.4		
	T	eP	44.2		

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 17	D	eP	15 55			45.1
	K	iP	16 59			32.3
	T	iP	17 19			41.8
	D	iP	17 19			41.9
	T	iP	17 59			48.1
	K	iP	17 59			48.1
	D	iP	17 59			56.1
	D	eP	18 03			22.5
	T	eP	18 03			26.9
MAY 18	T	eP	20 03			57.0
	K	eP	20 08			11.9
	T	eP	04 08			28.3
	D	eP	04 08			37.2
	K	eP	04 08			42.2
	T	eP	04 23			04.0
	T	iP	04 40			45.6
	D	eP	04 40			53.6
	T	eP	07 08			29.9
	D	eP	07 08			37.5
	T	eP	11 24			06.4
	D	eP	11 24			15.2
	K	eP	11 24			21.0
	T	eP	14 02			31.2
	D	eP	14 02			40.0
	K	eP	14 02			45.2
	D	eP	14 28			45.5
	D	iP	23 41			19.9
	K	eP	23 41			23.9
	T	iP	23 41			28.0
MAY 19	K	eP	03 51			52.7
	D	eP	03 52			05.0
	T	eP	03 52			06.5
	T	eP	13 44			14.5
	D	eP	13 44			23.3
	T	eP	14 24			37.2
	D	eP	14 24			46.1
	D	eX	12 14			12.5
	T	eP	15 40			11.5
	D	eP	15 40			20.3
	K	eP	15 40			22.5

Date	Station	Phase	Time(G.M.T.)	"	T	Am	Am
MAY 19	T	eP	15 53	05.6			
	D	eP		14.5			
	T	eP	17 18	52.5			
	D	eP	19	01.3			
	T	eP	19 02	03.1			
	D	eP		11.1			
MAY 19	K	eP	20 14	42.1			
	T	eP		55.9			
	D	eP		56.4			
	K	eP	20 33	39.4			
	T	eP		52.1			
	D	eP		54.0			
MAY 20	K	eP	02 54	54.7			
	T	eP	55	05.7	1.2	137	
	D	eP		06.7			
		eS	58	10.0			
	T	iP	12 34	26.5			
	K	iP		30.2			
	D	iP		33.9			
	T	eP	13 02	47.2			
	D	eP		54.8			
	D	eX	13 22	01.8			
	T	eP	15 12	02.9	1.0	92	
	D	eP		06.8			
	K	eP		07.1			
MAY 21	K	eP	00 31	07.3			
	D	eP		13.1			
	T	eP		15.2			
	D	iP	11 58	36.7			
	T	iP		48.2			
	K	eP		56.5			
	K	eP	12 25	01.1			
	T	eP		09.7			
	D	eP		09.9			
	D	iP	18 53	56.3	6.0	7,300	
		epP	54	42.1			
		ePcP	55	11.6			
		eScP	58	48.1			
		eS	19 00	56.0			
		eScS	03	29.1			
MAY 21	K	eSS	04	50.9			
		eP	18 53	56.4			
		ePcP	55	13.5			
		eScP	58	48.1			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 21	T	eP	54	00.4		
		ePcP	55	13.5		
		eScP	58	49.9		
		eS	19 00	59.6		
	T D K	iP	23 11	09.1		
		eP		18.0		
		eP		22.7		
	MAY 22 D T K	eP	01 10	22.1		
		eP		27.3		
		eP		28.2		
MAY 22	D T K	iP	02 42	23.5		
		iP		26.8		
		iP		30.3		
	T D K	iP	05 02	39.0		
		iP		46.7		
		eP		47.6		
	T D K	eP	12 18	14.1		
		eP		22.8		
		eP	16 48	04.5		
	K T D	iP	17 05	02.5		
		iP		05.0		
		eP		14.5		
	D T K	eP	18 09	48.4		
		iP	22 49	23.7		
		iP		32.9		
		eP		43.3		
	T D K	iP	21 06	21.0		
		eP		30.0		
		eP		34.6		
MAY 23	T	eP	01 25	03.5		
		eX		16.6		
		eS	27	02.7		
	D K	eP	25	12.4		
		eP		17.2		
	T	eP	01 55	21.4		
		eX		34.6		
		eS	57	20.2		
	D K	eP	55	29.3		
		eP		35.5		
	T D	eP	05 58	15.8		
		eP		24.0		
	D T	eP	08 43	44.0		
		eP		47.2	1.0	2.2

Date	Station	Phase	Time(G.M.T)	"	T	Am
MAY 23	T	iP	09 53	32.1		
	D	iP		40.9		
	K	eP		45.5		
	T	eP	14 12	01.1	"	1.3 9 7
	K	eP		04.9		
	D	eP		05.5		
	D	eP	15 37	05.1	"	
	D	eP	19 37	29.1	"	
	T	eP		29.2		1.7 12 9
		eX	38	03.9		
	K	eP	37	30.6		
	T	eP	21 01	40.3	"	0.5 12
MAY 24		eX		53.3		
	D	eP		47.0		
	D	eX	01 40	04.4	"	
	T	eP	12 39	49.4		
	D	eP		58.0		
	K	eP	40	03.5		
	T	eP	17 48	44.7		
	D	eP		54.4		
	T	iP	19 04	18.9		
	D	iP		29.6		
	K	eP		32.5		
	T	eP	22 03	49.1		
MAY 25	D	eP		58.2		
	T	eP	22 43	16.2	"	
	D	eP		23.6		
	T	iP	01 28	23.4		
	D	iP		28.3		
	K	iP		29.7		
	K	eP	03 44	18.2		
	T	eP		31.5		
	D	eP		33.8		
	T	eP	06 49	31.0		
	D	eP		41.2		
	K	eP		42.7		
	T	iP	08 08	48.2		
	K	eP		57.8		
	D	iP		58.5		
	T	eP	13 41	43.9	"	
	D	eP		50.5		

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 25	T	iP	16 05 02.3			
	D	iP	16 05 03.0			
	K	iP	16 05 10.3			
	T	iP	18 04 04.5	"	0.5	3 2
	D	eP	18 04 11.5			
	T	eP	18 54 33.1			
		eX	39.0			
	D	eP	38.6			
	K	eP	47.3			
	T	eP	23 20 51.1			
	T	iP	23 49 12.6			
	K	eP	21.1			
	D	iP	22.5			
	K	iP	10 36 16.7			
	T	eP	30.1			
MAY 26	D	eP	31.9			
	D	eX	15 12 07.1	"		
	K	eP	15 58 50.1			
	T	eP	04 05 59 02.3			
	D	eP	03.3			
	T	eP	16 03 02.7			
	K	eP	19 09 08.2			
	T	eP	21.0			
	K	iP	19 35 50.7			
	D	iP	36 00.9			
	T	iP	02.5			
		eS	37 52.7			
	K	eP	21 25 03.0	" ?		
	D	eP	09.0			
		eX	23.1			
MAY 27	T	eP	15 07 11.1			
		eX	26.4			
	T	iP	00 06 51.9			
	D	iP	56.1			
	K	eP	07 00.1			
	T	iP	01 50 37.3			
	D	iP	47.7			
	K	eP	50.5			
	T	eP	04 10 39.2			
	D	eP	48.6			
	K	eP	05 37 54.4	"		
	T	eP	38 04.2			

Date	Station	Phase	Time(G.M.T.)		"	T	Am
MAY 27	D	eS	40	13.9			
		eP	38	04.4			
	T	iP	14	27	36.6		
	D	iP			46.4		
	K	eP			51.1		
	T	iP	17	29	04.3	"	1.3 152
		eX			50.3		
		ePcP	32		18.1		
	D	eP	29		10.1		
		epP			25.1		
		eScS	39		47.1		
	K	eP	29		11.5		
	D	eP	19	14	33.1	"	
	T	eP			36.8	1.2	51
		eX	15		21.1		
	K	eP	14		38.5		
MAY 28	T	iP	20	12	37.6		
		eS		13	44.7		
	D	eP		12	45.3		
	K	eP			51.6		
	D	eP	04	03	10.9	" ?	
	K	eP			18.0		
	T	eP			20.3		
	D	eP	04	16	21.1	"	Explosion?
	T	iP			23.1	0.5	99
	K	iP			29.2		
	K	eP	07	21	55.0	"	
	T	eP		22	03.8	0.5	11
	D	eP			04.2		
	T	iP	11	56	08.9	"	
	K	iP			14.6		
	D	iP			17.2		
MAY 29	D	iP	13	07	50.0		
	K	eP			50.0		
	T	iP			54.4		
	K	eP	18	31	26.6		
	T	eP			39.7		
	D	eP			42.4		
	D	eX	00	06	50.7	"	
	K	eP	04	50	49.8	"	
	D	eP			57.9		
		eX		51	06.2		
		eS		55	24.2		
	T	eP		50	58.4	1.2	89

Date	Station	Phase	Time(G.M.T.)			"	T	Am
MAY 29	D	eX	11	24	17.7	"		
	T	eP	11	49	50.1			
		eS		51	27.4			
	D	eP			43.2			
	D	iP	14	57	49.1			
	T	iP			53.8			
	K	iP			58.1			
	T	iP	15	16	34.3			
	K	eP			36.6			
	D	eP			44.7			
	D	iP	17	05	17.1			
	K	iP			19.2			
	T	iP			21.7			
	T	iP	21	03	41.4			
	D	eP			50.4			
	K	eP			55.3			
MAY 30	D	iP	07	03	24.4			
	T	iP			34.4			
	K	iP			44.3			
	D	eP	07	04	22.6			
	T	eP			32.9			
	D	iP	08	03	21.9			
	T	iP			31.7			
	K	eP			42.2			
	T	eP	10	01	19.6	"		
	D	eP			26.4			
	D	iP	12	27	35.9			
	T	eP			45.4			
	K	eP			54.7			
	D	eP	13	29	14.0	"		
	T	eP			15.1			
	K	eP	16	49	43.8	"		
	D	eP			53.0			
		eS		53	46.0			
	T	eP		49	53.4		0.5	6.4
	T	iP	18	23	53.3			
	D	iP			59.1			
	K	eP		24	04.2			
	T	eP	19	55	19.4			
	D	eP			29.3			
	T	iP	09	24	54.5			
	D	iP		25	00.8			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
MAY 31	K	iP	05 7			
	D	eX	10 56 18.0	"		
	D	eX	16 32 11.9	"		
	T	iP	17 07 06.1			
	K	iP	06.3			
	D	iP	14.4			
	D	eP	17 58 59.3	"		
	K	iP	22 30 33.0			
	D	iP	41.8			
		eS	31 07.2			
	T	iP	30 45.7		0.5	57

9 OCT 1967

**Preliminary Bulletin of the Dodaira Earthquake Observatory
and its Substation**

June, 1967

**EARTHQUAKE RESEARCH INSTITUTE
THE UNIVERSITY OF TOKYO**

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : **Am :** Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.
T : Period in sec of the measured
" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 1	T	eP	03	43	57.8	"	1.2	203
		ePcP		45	56.4			
	D	iP		44	04.7			
		eX			46.1			
		ePcP		46	00.7			
		eS		50	15.4			
	K	eP		44	04.4			
	T	eP	09	20	18.3			
	T	eP	10	21	10.5	"	0.5	32
		eX			13.7			
	D	eP			16.2			
	K	eP			21.4			
	T	eP	11	06	18.4		0.5	27
		eS		08	09.9			
	D	eP		06	28.0			
	K	eP			34.5			
	T	iP	17	25	54.2			
	K	eP		26	00.0			
	D	iP			05.1			
	K	eP	19	22	05.6	"		
	D	eP			15.6			
		eS		25	13.3			
	T	eP		22	16.0		0.5	13
	T	eP	20	56	03.5	"	0.5	33
	D	eP			03.7			
	D	iP	21	02	29.2			
	K	iP			35.5			
	T	iP			39.3			
	T	iP	22	16	53.1			
	K	iP			58.7			
	D	iP		17	03.3			
	T	iP	22	32	59.2			
	K	eP		33	04.8			
	D	iP			10.0			
JUN. 2	T	iP	05	34	29.0			
	K	eP			34.3			
	D	iP			39.6			
	T	iP	10	50	11.0			
	K	eP			16.5			
	D	eP			21.9			
	T	iP	11	10	07.6			
	K	eP			12.9			
	D	iP			17.8			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
JUN. 2	K	iP	11 34			17.9
	D	iP				25.7
	T	iP				27.6
	T	eP	12 06			05.4
		eS				07.9
	D	eP				14.0
		eS				23.5
	T	eP	13 16			27.0
	D	eP				35.4
	K	eP				41.9
	T	iP	14 55			02.2
	K	iP				06.4
	D	iP				07.2
	K	eP	16 59			13.1
JUN. 3	T	eP				26.5
		P				
	T	iP	19 38			31.1
	D	iP				42.0
	K	eP				42.9
	D	iP	21 01			27.9
	K	iP				31.2
	T	iP				32.7
	D	iP	23 35			35.1
	K	iP				39.5
	T	iP				46.0
	K	iP	01 45			16.9
	T	iP				28.5
	D	iP				31.1
	K	eP	02 51			40.7
JUN. 4	T	eP				54.8
	D	eP				55.4
	D	eP	03 33			45.4
	T	eP				51.2
	K	eP				52.0
	D	eP	09 17			46.2
	K	eP				48.9
	T	eP				52.5
	K	eP	09 23			06.8
	D	iP				12.0
	T	iP				14.9
		eS				11.1
	K	iP	10 10			48.5
	D	iP				48.9
	T	iP				53.0

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 3	K	iP	12	02	23.7			
	T	eP			28.5			
	D	eP			37.5			
	T	eP	14	17	02.2			
		eS		18	39.6			
	D	eP		17	06.9			
	K	iP	15	02	04.3			
	D	iP			09.9			
	T	iP			12.1			
	K	eP	22	34	03.8			
JUN. 4	D	eP			12.0			
	T	eP			13.4			
	T	eP	05	31	23.7	"	1.3	9 0
	D	eP			29.9			
	K	eP			30.4			
	T	eP	06	28	18.3	"	1.1	2 4
	D	eP			24.0			
	T	eP	06	39	03.5	"	0.5	1 1
	D	eP			09.2			
	K	eP	13	07	42.9			
JUN. 5	D	eP			43.7			
	T	eP			47.6			
	T	eP	16	45	00.9			
	K	eP	22	42	21.0			
	D	eP			26.8			
	T	eP			29.0			
	K	eP	01	32	34.8	"	1.3	1 5 7
	T	eP			38.4			
		epP			50.0			
	D	eP			41.9			
JUN. 5		epP			53.1			
	K	iP	11	12	28.6	"		
	D	iP			38.8			
		eS		15	30.9			
	T	iP		12	38.6		0.5	4 5
	D	iP	13	45	06.3			
	K	iP			10.3			
	T	iP			11.1			
	D	eX	15	21	34.1	"		
	T	eP	16	43	11.6	"	1.1	3 9
JUN. 5	D	eP			18.6			
	K	eP			25.5			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 5	K	eP	16	47	57.3			
	T	eP		48	11.2			
	D	eP			14.0			
	T	iP	18	54	22.2			
	K	iP			29.2			
	D	iP			33.3			
	T	eP	21	12	48.5			
		eS		14	37.0			
	D	eP		12	56.2			
		eS		14	52.6			
	K	iP	22	27	59.5			
	T	iP		28	09.8			
	D	iP			14.2			
	K	eP	07	38	24.4			
	D	eP			31.6			
	T	eP			34.1			
JUN. 6	T	iP	07	51	56.0			
	D	iP		52	02.0			
	K	eP			03.8			
	D	iP	08	11	26.8			
	T	iP			35.9			
	K	iP			46.6			
	D	eP	09	39	41.2	"		
	K	iP	11	24	33.9	"		
	T	iP			40.7		0.5	11
	D	eP			41.9			
	K	eP	13	11	22.6			
	T	eP			28.7			
	D	eP			29.1			
	T	iP	13	15	36.5			
	D	iP			46.7			
	K	eP			58.6			
	T	iP	14	17	21.0			
	D	iP			22.1			
	K	iP			27.2			
	T	iP	14	59	11.6			
	D	iP			15.5			
	K	iP			18.6			
	D	eX	15	15	31.9			
	K	eP	19	27	46.7			
	D	eP			52.9			
	T	eP			55.1			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 7	K	eP	07	17	04.2	"	0.5	10
	T	eP			14.3	"		
	D	eP			14.7			
		eS	19		53.0			
	K	eP	10	17	35.9			
	D	eP			41.5			
	T	eP			44.1			
	T	eP	12	11	10.8			
	D	eP			19.6			
	K	iP	13	20	28.7			
	T	eP			41.2			
	D	eP			44.3			
	K	iP	14	55	02.4			
	T	iP			05.5			
	D	iP			14.2			
	T	eP	18	20	09.9	" ?		
	D	eP			18.8			
	K	eP			19.3			
	D	eX	18	21	22.0			
	T	eP	20	02	49.0			
		eS			23.5			
	D	eP			57.9			
JUN. 8	K	eP	21	34	17.7	"		
	D	eP			28.7			
		eS		37	03.0			
	T	eP		34	30.4		0.5	35
	K	eP	03	28	13.7			
	D	eP			21.8			
	T	eP			23.4			
		eS		29	53.6			
	D	eP	21	08	27.0	"		
		eS?		11	11.4			
	K	eP	13	32	33.7	"		
	T	eP			39.9		0.5	10
	D	eP			41.2			
	D	eP	13	57	45.6	" ?		
	T	eP			50.3			
	K	eP	16	15	33.9		0.5	16
	T	eP			47.2			
	D	eP			48.4			
	T	eP	17	15	11.3			
		eS		16	37.9			
	D	eP		15	20.5			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
JUN. 8	T	eP	20 50	15.1		
	D	eP		25.6		
JUN. 9	T	eP	02 11	38.6		
	D	eP		44.1		
	K	eP		52.8		
	K	iP	03 52	27.2	"	
	D	iP		37.9		
	T	iP		38.4	0.5	27
		eS	55	14.9		
	T	iP	05 35	08.3		
	K	iP		16.9		
	D	iP		18.7		
JUN. 10	T	eP	11 24	10.5		
		iS	25	34.1		
	D	eP	24	19.5		
	T	eP	17 24	30.3		
	D	eP		30.5		
	D	eP	19 30	51.3	"	
	T	eP		54.8	0.5	36
		eS	33	22.5		
	T	iP	21 09	23.9		
	D	iP		34.7		
	T	eP	21 22	11.9		
	D	eP		21.0		
	T	eP	00 18	00.3		
	D	eP		01.4		
JUN. 11	K	eP	05 46	37.0	"	
	T	eP		37.6	0.9	26
		eX		50.1		
	D	eP		40.3		
		eX		52.2		
	T	iP	10 02	46.8		
	K	eP		55.6		
	D	iP		57.6		
	K	iP	14 08	50.3	"	
	T	iP		54.5	1.0	182
	D	iP		56.6		
		eX	11	02.8		
	K	eP	14 17	18.4	"	
	T	eP		23.3	0.8	29
	D	eP		24.9		
	T	eP	15 09	04.0		
	D	eP		13.6		

Date	Station	Phase	Time(G.M.T.)			"	T	Am	Am
JUN. 11	T	eP	11	53	51.5	"	0.5	10	
		eS		56	34.5				
	D	eP		54	01.7				
		eS		56	52.0				
		eX		57	27.2				
	K	eP		54	06.4				
	K	eP	14	40	19.6				
	D	eP			33.2				
	T	eP			33.5				
	T	eP	15	35	41.4				
	K	iP	16	08	06.8				
	T	iP			09.2				
	D	iP			09.8				
	T	iP	16	19	53.4				
	K	iP		20	01.2				
	D	iP			04.7				
	K	eP	16	52	38.0				
	T	eP			50.9				
	D	eP			54.0				
	T	eP	18	21	29.7				
	K	eP	19	55	54.3				
	T	eP		56	08.6				
	D	eP			10.0				
JUN. 12	D	eP	23	21	38.8				
	T	eP			43.7				
	K	eP			45.0				
	K	eP	01	00	17.1	"	1.0	54	
	T	eP			20.2				
	D	eP			22.3				
	K	eP	02	46	09.6				
	D	eP			18.8				
	T	eP			20.0				
	T	eP	15	05	42.7				
		eS		07	13.5				
	D	eP			51.5				
	K	eP			57.1				
	K	eP	20	03	02.0	"			
	T	eP			10.7				
	D	eP			11.3				
	D	eP	21	27	04.1	"	1.3	45	
	T	eP			08.4				

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 12	T	iP	23	26	17.2	"	0.5	3.7
		eS		28	57.5			
		eX		29	31.4			
	D	eP		26	26.4			
		eS		29	12.5			
	K	eP		26	32.8			
JUN. 13	T	eX	02	49	01.0	"		
	K	iP	09	27	08.2			
	D	iP			10.2			
	T	iP			13.8			
	T	iP	10	22	36.7			
	K	eP			42.4			
	D	iP			47.3			
	T	iP	11	37	28.2			
	D	iP			39.0			
	T	eP	11	38	04.7			
	K	iP	15	46	55.3	"		
	D	eScP		52	19.9			
		iP		47	03.5			
		ePcP		48	53.7			
		eScP		52	23.4			
		eS		53	07.0			
		eScS		56	41.3			
	T	iP		47	04.8		0.5	2.0
		ePcP		48	52.8			
		eScP		52	22.2			
	D	eX	20	36	31.5	"		
	D	eP	22	35	37.2	"		
	K	eP			40.6			
	T	eP			42.6		0.5	1.4
JUN. 14	T	iP	00	06	55.2			
		eX		07	04.1			
		eS		08	31.5			
	D	eP		07	03.7			
	K	eP			09.1			
	T	eP	01	07	59.0			
	D	eP		08	00.0			
	D	eP	03	15	46.4			
	T	eP			50.8			
	K	eP			55.6			
	T	eP	03	33	37.2	"		
	D	eP			41.0			

Date	Station	Phase	Time(G.M.S.)	"	T	Am
JUN. 14	T	iP	03 48	28.5		
		eS	50	11.5		
	D	eP	48	30.6		
	K	eP		42.2		
	K	eP	05 17	09.4		
		eX		22.9		
	T	eP		14.3	1.3	168
		eX		26.4		
	D	eP		16.9		
		eX		28.5		
	T	eP	08 09	31.9	0.5	10
	D	eP		41.4		
		eX	10	00.3		
		eS	12	40.1		
	K	eP	09	46.7		
	T	eP	08 16	35.7	0.5	7
	D	eP		43.0		
		eS	19	38.4		
		eX		52.5		
	K	eP	16	45.2		
	D	iP	12 58	08.5		
	T	eP		17.3		
	K	eP		29.3		
	T	eP	15 39	02.3		
	D	eP		19.0		
		eS	41	43.1		
	T	iP	17 18	29.5		
	K	iP		40.1		
	D	iP		40.4		
	K	iP	17 57	40.5		
	D	iP		41.2		
	T	iP		45.3		
	K	iP	18 54	20.8		
	T	iP		26.9		
	D	iP		29.1		
	K	eP	22 00	07.0	" ?	
	D	eP		17.2		
	T	eP		17.6		
JUN. 15	T	eP	04 48	55.8		
		eS	51	00.9		
	T	iP	10 14	10.8		
	D	iP		11.5		
	K	iP		26.8		
	K	eP	11 33	19.7		
	T	iP		22.3		
	D	iP		24.3		

Date	Station	Phase	Time(G.M.T.)	"	T	Am
JUN. 15	T	eP	11 34 05.7	#	0.5	1 2
	D	iP	08.1			
	D	iP	12 27 39.0			
	T	eS	30 17.5			
	T	eP	27 39.4			
	T	eP	13 06 40.1			
	D	eS	08 16.5			
	D	eP	06 49.1			
	T	iP	18 19 54.4			
	D	iP	20 02.8			
	K	iP	05.8			
	D	eX	20 52 42.1			
	T	iP	22 30 08.2			
	D	iP	11.9			
	K	iP	16.3			
JUN. 16	K	eP	10 54 09.2	#	0.5	5
	D	eP	20.9			
	T	eS	56 57.1			
	T	eP	54 21.0			
	K	iP	20 23 12.0			
	T	eP	17.6			
	D	eP	19.0			
	D	eP	23 52 22.0			
	T	eP	26.5			
	K	eP	29.9			
JUN. 17	K	eP	05 19 49.0	#	2.0	4 5 2
	D	eX	55.8			
	D	eP	50.0			
	D	eX	2.0 00.0			
	D	epP	17.0			
	D	eX	23 07.0			
	D	eX	53.9			
	T	eS or ScS	30 28.5			
	T	eP	19 50.1			
	T	eX	20 00.6			
	T	epP	18.2			
	T	eX	23 08.2			
	T	eX	55.3			
	D	iP	10 31 50.2			
	T	iP	55.2			
	K	iP	56.2			
	D	eP	11 52 12.4			
	T	iP	17.1			
	K	eP	20.6			
	T	eP	12 58 33.0	#		
	D	eP	41.2			

Date	Station	Phase	Time(G.M.T.)		"	T	Am	Am
JUN. 17	K	iP	14	17	51.1			
	T	iP			52.2			
	D	iP			56.8			
	T	iP	21	18	16.0			
	D	iP			25.8			
	K	iP			28.3			
JUN. 18	T	iP	06	20	44.1			
	D	iP			48.0			
	K	eP			55.9			
	T	eP	13	25	39.5			
		eS			26			
	D	eP			25			
	K	eP	20	12	06.7			
	T	eP			13.2	0.5	0	1 0
	D	eP			14.4			
		eX		14	00.6			
	T	eP	04	11	03.4			
	D	eP			12.3			
JUN. 19	K	eP			16.9			
	D	iP	04	59	01.3			
	K	eP			07.5		0.6	1 3 4
	T	iP			10.7			
	T	iP	10	46	31.6			
	K	eP			42.4			
	D	iP			42.6		0.8	5 6
	D	eX	12	48	19.0			
	T	eP	17	15	19.8			
		epP			33.4	2.1	1, 1 2 5	
		eX		16	56.4			
	D	eP		15	26.0			
		epP			39.1			
		eS		21	41.0			
	K	eP		15	27.5			
		epP			39.5		0.8	1 1 7
	T	iP	22	17	11.2			
	K	eP			17.7			
	D	eP			21.1			
JUN. 20	T	iP	01	20	31.4			
	K	eP			38.0			
	D	iP			41.7			
	T	eP	01	21	14.4			
	K	eP			21.2			
	D	eP			25.0			

Date	Station	Phase	Time(G. M. T.)			"	T	Am
JUN. 20	T	iP	01	39	10.3			
	K	eP			16.2			
	D	iP			20.9			
	T	eP	05	32	56.5	"		
	D	eP		33	03.1			
	T	iP	05	36	58.1			
	K	iP		37	00.4			
	D	iP			01.2			
	K	iP	05	45	14.5	0.5	1.0	
	T	iP			20.4			
	D	iP			25.5			
	D	eP	06	28	33.5	"		
	T	eP	07	46	22.8	"	0.5	21
		eX			43.4			
	K	eP			28.6			
	D	eP			29.3			
		eX			49.5			
		eX		48	41.5			
	K	iP	10	16	32.4			
	D	iP			40.3			
	T	iP			44.9		0.6	136
		eX			51.8			
	K	iP	10	41	53.3			
	D	iP		42	01.4			
	T	iP			05.8		0.5	86
	T	eP	12	33	28.2	"		
	D	eP			34.5			
JUN. 21	K	eP	13	17	39.5			
	D	eP			47.8			
	T	iP			52.6			
	K	iP	16	49	03.2			
	D	iP			11.4			
	T	iP			15.7		0.6	119
		eX			20.1			
	D	eX	19	45	01.1	"		
	D	eP	12	10	42.5			
		eX			50.4			
	K	eP			50.3			
		eX			58.3			
	T	eP			52.1			
		eX		11	00.9			
		eS			52.4			
	T	iP	15	50	25.9			
	D	iP			36.4			
	K	iP			39.0			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 21	K	eP	16	15	32.1	"		
	D	eP			38.2			
	T	eP			40.3			
		eS		16	05.8			
	K	eP	16	54	08.6	"		
	T	eP			22.4		0.5	3 1
		eS		56	47.0			
	D	eP		54	22.6			
		eS		56	54.3			
	T	eP	18	13	51.8	"	0.5	10
	D	eP			53.5			
	T	eP	18	22	01.8	"	0.5	13
	D	eP			07.0			
	K	eP			11.0			
	T	eP	18	33	43.1	"	0.5	7
	D	eP			50.3			
	K	eP			53.6			
	K	eP	19	03	25.9	"		
	T	eP			30.4		0.5	14
	D	eP			32.9			
	K	iP	19	20	46.4	"		
	T	iP			50.6		1.1	39
	D	iP			52.9			
	D	eP	20	29	18.5	"		
	T	eP			21.0		1.2	178
		eX			32.6			
	K	eP			23.1			
		eX			34.5			
JUN. 22	T	iP	03	33	27.6			
	K	eP			36.2			
	D	iP			40.8			
	T	eP	05	18	22.8	"	0.5	8
	D	eP			30.0			
	D	iP	12	28	08.5			
	T	iP			10.5			
	K	iP			25.1			
	K	iP	12	50	09.8			
	D	iP			18.3			
	T	iP			20.1			
		eS		51	12.2			
	T	iP	15	43	20.0	"	0.5	46
		eX			34.6			
	K	eP			23.5			
	D	eP			26.3			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
JUN. 22	T	eP	19 15 50.5	"		
	D	eP	54.4			
	D	eP	20 14 29.0			
	K	eP	37.4			
	T	eP	39.8			
JUN. 23	T	eP	00 36 27.0	"		
	D	eP	32.0			
	K	iP	04 06 40.1			
	D	iP	45.9			
	T	iP	48.4			
	K	eP	05 12 47.8	"		
	D	eP	51.0			
		ePcP	14 45.7			
		eScP?	18 29.8			
		ePcS	37.5			
		eS	19 08.0			
	T	eScS	22 44.0			
		eP	12 54.5		1.1	87
		ePcP	14 45.4			
		ePcS	18 51.9			
		eS	19 09.2			
	T	iP	06 26 26.1			
	D	iP	35.1			
	K	iP	40.2			
	K	eP	10 25 40.0	"		
		eS	28 45.8			
	T	eP	25 50.0		0.5	30
		eS	28 56.6			
	K	iP	14 48 38.3	"		
	T	eP	41.9		0.5	14
	T	iP	13 31 58.6			
	K	iP	32 06.3			
	K	eP	19 14 09.9			
		eS	15 27.6			
	T	eP	14 12 14 19.7			
		eS	15 43.9			
	T	eX	21 40 22.7	"		
JUN. 24	K	eP	01 08 43.9			
	T	eP	56.8			
	T	eP	04 03 30.9			
	T	iP	08 17 54.1			
	K	iP	55.6			
	T	iP	11 50 29.2			
	K	eP	39.5			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN. 24	K	eP	13	38	39.0	"		
	T	eP			44.3			
	T	eP	15	38	31.3			
	K	eP			37.6			
	K	eP	21	05	27.6	"		
		eX			44.0			
	T	eP			35.0		1.3	219
		eX			51.4			
		eS		09	29.8			
JUN. 25	T	iP	07	06	56.1			
	K	iP		07	06.1			
	T	eP	10	28	41.1			
	K	eP			46.9			
	T	iP	11	35	43.5			
	K	iP	12	56	46.3			
	T	iP			52.0			
	T	eP	13	35	14.1	"		
	K	iP	14	27	43.1			
	T	iP			49.3			
	T	eP	17	45	21.4			
	K	eP			33.7			
	T	eX	20	00	23.0	"		
	T	eP	21	28	28.6			
	T	eP	23	23	13.4	"	1.1	193
		eS		27	13.5			
JUN. 26	T	eP	04	56	11.0			
	T	iP	13	46	38.2			
	K	iP			45.8			
	T	eX	14	12	27.2	"		
	T	iP	14	42	45.0			
	K	eP			58.1			
	T	eP	19	23	19.8			
		eS		24	35.3			
	T	eP	19	56	53.0			
	T	eP	20	37	43.8			
	T	eP	22	42	21.8			
	K	eP			27.1			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN.26	T	eX	23	00	01.2	"		
JUN.27	T	eP	05	37	33.6			
		eS		39	02.5			
	K	eP		37	46.7			
	K	iP	14	30	25.1			
	T	iP			26.6			
	T	eX	14	58	44.0	"		
	T	eX	16	56	48.1	"		
	K	eP	17	30	48.2			
	T	eP			58.1			
	K	eP	21	00	02.1			
JUN.28	T	eP			14.4			
	T	eP	22	39	55.6			
	K	eP	00	23	16.1	"	1.3	64
	T	eP			23.3			
	K	eP	00	23	16.1	"	1.3	64
	T	eP			23.3			
	T	eP	01	13	05.6	"	0.5	16
		eS		15	22.1			
	K	eP		13	16.7			
	T	eX	05	44	50.4	" ?		
	T	iP	09	41	45.0			
	K	eP			54.5			
	T	iP	15	25	36.5			
	T	iP	18	25	27.1			
	T	eP	18	37	01.8			
JUN.29	T	iP	19	40	16.8			
	T	eP	00	52	57.0			
	K	iP	01	43	13.0			
	T	iP			13.8			
	T	iP	03	05	23.1	"	0.5	36
	K	iP			29.1			
	K	iP	06	10	42.8		0.5	65
	T	iP			51.8			
		eS		12	12.0			
	T	eP	13	28	21.7			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JUN.29	T	iP	15	02	34.4			
	K	iP			35.9			
	K	eP	16	44	10.3	"		
	T	eP			16.9		0.5	28
		eX		45	24.7			
	T	eX	19	05	14.4	" ?		
JUN.30	K	iP	00	18	19.2			
	T	iP			21.2			
	T	eP	09	23	39.5			
	T	eP	11	33	26.3			
	T	eP	12	19	11.7	"	0.5	9
		eS		21	38.2			
	K	eP		19	22.8			
	T	eP	15	15	52.2			
	K	eP		16	04.9			
	K	eP	18	59	51.2			
	T	eP	19	00	02.1			
	K	eP	21	34	48.0			
	T	eP		35	09.3			

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Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : Am : Amplitude in millimicron (peak to trough) of short
period vertical P motion maximum within few cycles
after the onset.

 T : Period in sec of the measured P maximum

 " : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time (G.M.T.)	#	T	Am
JULY. 1	K	eP	04 21 22.2			
	T	eP	29.4			
	K	eP	06 35 43.8			
	T	eP	57.4		0.5	4.3
	T	eP	07 38 16.7	"		
	K	eP	17.7			
	K	iP	14 41 04.1			
	T	eP	15.8			
	T	iP	15 00 25.3			
	K	eP	38.8			
JULY. 2	T	iP	23 18 25.1	"	1.2	317
	K	eX	36.9			
	K	eX	17 19 25.4			
	K	eP	18 31.5			
	T	iP	01 06 27.3			
	K	iP	38.9			
	T	eP	02 25 52.8			
	T	eP	03 04 16.6			
	K	eS	06 03.3			
	K	eP	03 04 30.7			
JULY. 4	T	eP	07 12 50.3	"?		
	K	eP	07 14 00.2			
	T	eP	14.6			
	K	eP	07 38 54.6			
	T	eP	39 06.7			
	K	eP	10 05 50.3			
	T	iP	55.3			
	K	eP	13 25 35.2	"		
	T	eP	47.8			
	K	eP	16 16 30.5			
JULY. 5	T	iP	43.2			
	K	eP	17 31 57.1			
	T	eP	58.1			
	K	eP	18 35 55.4			
	T	iP	58.8			
	K	eP	20 36 50.4	"		
	T	eP	54.3		0.5	1.1
	K	eX	38 55.9			
	K	eP	22 03 34.6	"		
	T	eP	47.8		0.5	1.2
JULY. 3	K	eP	03 47 19.8	"?		
	T	eP	30.6		0.5	9

Date	Station	Phase	Time (G.M.T.)	"	T	Am
JULY. 3	T	eP	04 25	29.8		
		eS	26	52.0		
	T	eP	05 11	28.6		
		eS	13	10.5		
	K	eP	11	51.7		
	T	iP	09 22	06.5		
		eP		16.7		
	K	eP	13 26	54.2		
		iP		58.8		
JULY. 4	T	iP	15 37	35.2		
		iP		43.2		
	K	iP		45.8		
	K	eP	17 50	59.0		
		eP	51	09.1		
	D	eP		15.0		
	T	eP	21 18	23.5		
JULY. 4	T	iP	01 27	01.4		
		iP		01.9		
	K	iP		09.8		
	T	iP	03 56	25.6		
		iP		34.1		
	K	eP		38.0		
	D	eP	04 48	20.4		
		eP		25.9		
JULY. 4	K	eP		32.2		
	T	iP	04 50	10.4		
		iP		19.8		
	K	eP		21.7		
	T	iP	05 47	58.2		
		iP	48	00.9		
	K	iP		06.9		
JULY. 4	D	eP	14 36	49.5	" ?	
	K	iP	17 31	57.9		
		eP	32	06.7		
	T	eP		10.3		
	T	iP	23 43	52.6		
		iP		59.2		
	K	iP	44	07.2		

Date	Station	Phase	Time (G.M.T.)	"	T	Am
JULY. 5	T	iP	0 1 11			49.0
	K	iP				58.2
	D	iP				59.5
	K	iP	0 2 49			25.8
	D	eP				35.3
	T	eP				36.9
	T	iP	0 4 08			49.4
	K	eP				57.4
	D	iP	0 9			00.1
	D	eX	0 4 11	"		30.9
	D	eP	0 5 49			37.9
	K	eP				42.8
	T	eP				46.9
	D	iP	0 9 00			44.6
	K	eP				44.8
	T	eP				49.1
	D	eP	0 9 04	"		42.8
	K	eP				44.1
	T	eP			0.5	11
	K	iP	1 3 44			48.6
	D	iP				54.1
	T	iP				56.8
JULY. 6	T	eP	1 1 05			08.9
	D	eP				21.6
		eS	0 7			31.0
	T	eP	1 3 49	"	1.1	26.7
		epP	50			08.1
		ePP	51			24.0
		eX	52			14.8
	D	eP	49			59.3
		epP	50			15.0
		eX	52			20.0
		eS	56			01.0
	K	eP	50			02.1
	D	eX	1 3 54	" ?		29.0
	K	eP	1 8 51			06.1
	D	eP				14.0
	T	eP				15.7
	D	eP	2 3 17			48.0
	T	eP				56.7
	K	eP				57.4

Date	Station	Phase	Time(G.M.T.)			"	T	Am
JULY. 7	T	iP	00	23	30.2			
	D	iP			32.8			
	K	iP	03	54	14.2			
	T	iP			20.8			
	D	eP			29.7			
	D	eP	04	39	25.2			
	T	eP			27.4		0.5	43
		eS		40	53.4			
	K	eP		39	35.8			
	T	iP	08	43	52.7			
	K	eP		44	03.2			
	D	iP			03.4			
	K	iP	09	52	15.8	"?		
	T	iP			20.0			
	D	iP			22.0			
JULY. 8	T	eP	11	40	59.7			
	D	eP		41	09.4			
	K	eP			12.0			
	K	eP	13	36	22.5			
	D	eP			26.3			
	T	eP			29.9			
	T	iP	13	38	41.3			
	D	eP			48.9			
	K	eP			55.5			
	K	eP	19	34	04.1			
	T	eP			07.2			
	D	eP			08.5			
	T	iP	00	42	54.4			
	D	iP		43	03.8			
	K	iP			08.7			
JULY. 8	K	iP	01	08	24.9	"		
	T	eP			31.0		1.6	123
	D	eP			32.0			
		epP or PcP	09		26.0			
		eS		16	23.0			
		esS or ScS	18		16.0			
	T	eP	06	32	47.4	"		
	D	eP			49.8			
	T	iP	07	18	17.6		0.5	68
	D	iP			24.0			
	T	eP	17	30	42.3		0.17	13
		eS		32	22.0			
	D	eP		30	49.2			
	T	iP	19	19	11.2			
	D	iP			21.6			

Date	Station	Phase	Time (G.M.T.)			#	T	Am
JULY. 8	T	iP	20	00	20.1			
	D	iP			20.6			
	T	eP	22	44	40.6			
JULY. 11	D	eS		45	51.8			
	D	eP		44	48.9			
	T	eP	23	01	26.3			
JULY. 9	D	eP			32.4			
	T	iP	00	48	52.6			
	D	iP		49	03.3			
	T	iP	03	11	05.5		0.5	43
	D	eP			14.8			
	K	eP			16.8			
	K	iP	12	29	45.7			
	D	eP			49.9			
	T	iP			52.8			
	K	iP	14	24	54.9			
	D	eP		25	04.6			
	T	eP			06.3			
	D	iP	17	11	02.9			
	T	eP			12.8			
	K	eP			22.0			
	T	eP	17	33	03.5			
JULY. 10	T	iP	05	52	22.3			
	D	iP			32.6			
	K	eP			33.5			
	K	iP	06	39	23.0	"	1.0	39
	T	iP			28.2			
	D	iP			29.9			
	D	iP	08	58	56.2			
	T	iP			58.4			
	K	iP		59	05.9			
	K	eP	12	09	20.4	"		
	D	eP			22.0			
		eS		15	38.0			
	T	iP		09	25.9		0.5	74
		eS		15	46.7			
	K	eP	13	14	09.0			
	D	eP			17.1			
	T	iP			18.7		0.17	5
	K	eP	15	54	07.4			
	D	eP			15.8			
	T	eP			17.8		0.17	11
	T	iP	18	29	42.1		0.17	4
	D	iP			52.7			

Date	Station	Phase	Time (G.M.T.)			#	T	Am
JULY.10	K	eP	19	24	32.9	"		
	D	eP			37.1			
	T	eP			41.8		0.5	15
		eX		27	23.0			
JULY.11	T	eP	04	25	15.1	"	0.5	12
		iX			26.0			
	D	eP			15.4			
	T	iP	13	43	01.2			
	D	iP			11.5			
	K	eP			11.5			
	T	eP	13	46	53.4			
	D	eP			58.8			
	K	eP	14	52	34.0			
	D	eP			39.1			
	T	eP			41.8			
	K	eP	15	12	37.9	"		
	T	eP			39.8			
	D	eP			40.2			
	T	eP	17	41	46.1	"	0.5	9
	D	eP			47.6			
JULY.12	T	iP	19	42	52.2			
	D	iP			56.8			
	K	iP			57.5			
	D	iP	02	54	49.5			
	K	iP			58.7			
	T	iP		55	00.5			
	K	eP	04	35	49.7	"		
	T	eP			50.0			
	D	eP			50.8			
	D	iP	09	12	36.7			
	T	eP			46.4			
	K	eP			55.8			
	T	eP	10	40	04.1	"	1.0	26
	D	eX		42	07.5			
	D	iP		40	10.3			
	K	eP	17	31	46.1			
	D	eP			53.0			
	T	iP			55.4		0.17	5
	K	eP	20	39	56.1			
	D	iP		40	01.3			
	T	eP			03.8			
	T	eP	21	10	51.5			
	D	eP	21	25	23.5	"		
	T	eP			24.8			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 13	T	eP	07	46	32.6	"	1.6	53
	K	eP			34.6			
	D	eP			35.0			
	K	eP	10	14	36.0	"	1.4	36
	T	eP			40.7			
	D	eP			43.2			
	T	iP	17	48	59.8			
	K	iP		49	06.4			
	D	iP			10.4			
	T	iP	18	33	50.0			
	K	iP			56.6			
	D	iP		34	00.5			
JULY. 14	K	eP	20	29	14.7		0.5	11
	T	eP			28.4			
	D	eP			32.8			
	D	eP	23	47	16.1	"		
		eS		50	52.3			
	T	eP	02	57	04.3	"	0.5	9
	D	eP			08.2			
	T	eP	03	39	05.1	"	1.2	45
	D	eP			08.0			
	T	iP	06	14	39.1			
	D	iP			47.4			
	K	eP			55.2			
JULY. 17	D	eP	07	29	46.0	"		
	D	eP	09	14	51.9	"	0.5	11
	T	eP			54.9			
	T	iP	13	54	41.9			
	K	eP			50.2			
	D	iP			52.9			
	D	iP	15	29	57.5			
	T	iP			59.0			
	K	iP		30	05.2			
	D	eP	16	40	12.1	" ?		
	T	eP			20.1			
	K	iP	16	55	09.5			
	D	eP			16.4			
JULY. 17	T	eP	20	46	37.6			
	D	eP			47.1			
	K	eP			50.7			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 15	D	eP	03	35	20.6	"	Explosion?	
	T	iP			23.1		0.5	52
	K	iP			29.4			
	D	eX	10	35	39.0	"		
	D	eX	14	46	53.3	"		
	K	eP	15	31	52.6			
	D	eP		32	01.6			
	T	eP			03.5		0.17	12
		eS		33	46.4			
	D	eX	17	14	27.0	"		
	K	iP	19	17	10.5			
	T	iP			13.2			
	D	eP			24.0			
	K	eP	19	23	09.0			
	T	eP			22.1			
JULY. 16	T	iP	23	59	47.9			
	K	iP			51.7			
	D	eP			57.5			
	D	iP	11	52	38.1			
	T	iP			43.6			
	K	iP			48.2			
	D	iP	13	41	38.1	"		
		eS		47	28.0			
	T	iP		41	40.5		0.5	4
	D	eP	14	00	05.7			
	T	iP			15.1			
	K	iP			26.1			
	K	eP	14	27	56.0			
	D	eP		28	04.6			
	T	eP			04.9			
JULY. 17	K	iP	20	25	33.1			
	D	eP			33.2			
	T	eP			37.8			
	T	eP	03	18	37.0			
	D	eP			46.2			
	T	iP	08	12	47.6			
	K	iP		13	01.7			
	T	iP	12	35	33.2			
	K	iP			46.7			
	T	eP	12	36	47.7			
	K	eP		37	00.0			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 17	K	iP	16	21	16.5			
	T	iP			20.0			
	T	iP	17	31	49.5			
	K	iP		32	03.6			
JULY. 18	T	eP	10	20	40.6			
	K	iP			52.4			
	T	iP	14	24	43.0			
	K	eP			52.6			
	T	iP	16	22	56.2			
	K	iP		23	02.9			
	T	iP	17	00	25.2			
	K	eP			38.4			
	T	iP	18	10	50.7			
	K	iP			52.7			
	T	eP	19	14	17.8			
	K	iP			21.3			
JULY. 19	K	eP	22	44	30.9			
	T	eP			43.4			
	K	eP	15	24	54.7			
	T	eP		25	02.1			
		eS		26	00.0			
	K	iP	17	04	43.5			
	T	eP			57.5			
	D	eP			59.2			
		eS		05	27.8			
	K	eP	19	58	02.5			
		eS		59	09.9			
	T	eP		58	10.0			
JULY. 20	D	eP	07	00	13.9	"		
		eS		02	14.2			
	K	eP		00	21.4			
	T	iP	09	27	27.3			
	D	iP			37.9			
		eS			55.6			
	K	eP			49.2			
	K	iP	10	26	28.2			
	T	eP			39.6			
	D	eP			43.9			
		eS		27	19.6			
	K	eP	11	40	11.5			
	T	eP			26.1			
	D	eP			27.0			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 20	K	eP	11	48	265	"		
	T	eP			33.5			
	D	eP			33.9			
	D	eP	12	09	01.9	"?		
	K	eP	13	27	57.8			
	D	eP		28	05.6			
		eS		29	42.0			
	T	eP		28	06.9			
	T	eX	13	31	12.7	"?		
	T	eP?	13	31	39.4	"		
		eX		32	22.2			
	D	eP		31	44.0			
		eX		32	27.2			
	T	eP	14	32	30.2	"		
		epP			41.8			
		eX		39	06.4			
	D	eP		32	37.4			
		epP			48.7			
	K	eP	15	42	10.1	"		
	D	eP			15.1			
JULY. 21		eX	15	45	32.9			
		eX			51.0			
		eS		49	16.0			
		eSS		53	03.5			
		eSSS			20.0			
	T	eP	16	42	17.3			
		eX		45	32.6			
	T	iP	17	23	51.9			
	D	iP		24	01.5			
		eS	21	03	55.6			
	K	iP			05.4			
	D	iP	17	35	29.1			
		eS	22	25	41.1			
	T	iP			38.7			
	K	eP			49.2			
	T	iP	20	14	17.8			
	K	iP			25.2			
	D	iP			28.2			
		eS			51.3			
	T	eP	23	23	20.3	"		
	D	eP			21.7			
JULY. 21	D	iP	05	45	36.5			
		eS		46	12.9			
	K	iP	04	45	38.1			
	T	iP			40.6			
	D	eP	07	11	28.6	"		
	T	eP			33.3			

Date	Station	Phase	Time (G.M.T.)		"	T	Am
JULY. 21	T	iP	08	10	08.3		
	K	iP			10.5		
	D	iP			18.6		
		eS			52.9		
	K	iP	08	42	59.0		
	D	iP		43	02.6		
		eS			47.8		
	T	iP			06.3		
	K	iP	13	32	34.4		
	T	iP			46.1		
	D	eP			49.3		
		eS		33	26.4		
	K	iP	14	11	12.7		
	T	iP			18.0		
	D	iP			18.3		
		eS			34.6		
	T	iP	15	06	39.6		
	K	iP			47.6		
	D	iP			49.8		
		eS		07	06.2		
	T	iP	15	11	47.6		
	K	iP			55.5		
	D	iP			58.0		
		eS		12	14.3		
	K	iP	18	08	41.0		
	D	iP			42.2		
		eS		09	35.2		
	T	iP		08	46.1		
	K	eP	21	04	35.8		
	D	eP			40.8		
	T	eP			43.3		
	K	iP	22	25	33.0		
	T	iP			46.3		
	D	eP			48.0		
	T	eP	23	54	11.1	0.5	14
	D	eP			20.6		
		eS			49.5		
	K	eP			25.0		
JULY. 22	T	eP	02	45	43.4		
		eS		47	27.2		
	D	eP		45	52.7		
		eS		47	43.2		
	D	eP	04	10	06.2		
	T	eP			07.4		
	T	eP	04	27	36.0		
	D	eP			36.7		
	K	eP			36.9		

Date	Station	Phase	Time (G.M.T.)			T	Am
JULY. 22	T	eP	15	49	57.4		
	D	eP		50	06.5		
		eS			37.2		
	K	eP			11.3		
	T	iP	16	04	44.7	0.5	16
	D	eP			52.8		
	D	eP	17	09	00.5		
		eS		19	10.3		
	T	eP		09	01.8	1.2	103
		eX			15.6		
		ePP		12	15.9		
	K	eP		09	09.6		
	T	eX	18	00	13.3	"?	
	K	iP	21	18	27.9		
	T	iP			30.1		
JULY. 23	K	eP	03	18	26.7		
	T	eP			32.3	1.3	28
	K	eP	07	35	38.7		
	T	eP			47.4	0.17	5
	D	eP			48.2		
				37	29.2		
	T	eP	15	48	06.8		
		eS		49	12.1		
	D	eP		48	14.3		
	K	iP	18	55	14.0		
	T	iP			18.4	1.1	77
	D	eP			21.1		
	D	iP	22	06	22.2		
		iS			36.0		
	T	iP			32.9		
	K	iP			41.6		
	K	iP	23	09	37.7		
	T	iP			40.4		
	D	eP			50.5		
JULY. 24	T	iP	01	33	12.3		
	D	eP			13.1		
	K	eP			24.2		
	K	eP	02	57	06.5		
	D	iP			12.5		
	T	eP			15.5		
		eS		58	09.6		
	K	iP	03	19	11.1		
		eS			39.1		
	D	eP			20.2		
	T	eP			21.4	0.17	6

Date	Station	Phase	Time (G.M.T.)			T	Am
JULY. 24	K	eP	07	47	43.8		
	D	eP			47.9		
		eX		49	14.8		
	T	eP		47	49.1	12	30
	D	iP	13	34	21.3		
		iS			35.0		
	T	iP			33.0		
	K	iP			40.5		
	K	iP	15	28	27.7		
	T	iP			39.0		
	D	iP			42.9		
		eS		29	28.4		
	K	iP	16	35	32.3		
	T	eP			44.2	0.17	8
	D	eP			47.3		
	T	iP	19	07	04.9	0.17	18
		eS			54.8		
	D	iP			15.2		
		eS		08	13.0		
	K	eP		07	15.2		
JULY. 25	K	eP	19	22	08.9		
	T	eP			20.7	0.5	8
	D	eP			27.6		
	K	iP	20	28	02.5		
		eS		30	28.4		
	D	eP		28	12.6		
		eS		30	51.0		
	T	eP		28	13.7	0.5	5
		eS		30	52.8		
	K	iP	00	33	43.5		
	T	eP			55.5		
	D	iP			58.7		
		eS		34	43.9		
	K	eP	00	35	41.4		
	T	eP			55.8		
	D	eP			57.6		
	T	eP	11	36	56.4	0.17	5
		eS		38	12.6		
	D	eP		37	05.7		
	D	iP	13	07	27.0		
		eS			40.0		
	T	iP			38.0	0.5	54
	K	iP			45.7		
	K	eP	15	23	48.5		
		eS		25	52.9		
	D	eP		23	58.8		
	T	eP		24	01.8		

Date	Station	Phase	Time (G.M.T.)			T	Am
JULY. 25	T	iP	15	25	51.4	0.17	17
	D	eP			59.7		
		eS		27	17.9		
	K	eP		26	05.1		
	K	iP	15	31	13.4		
	D	iP			13.5		
	T	iP			18.0		
		eS			59.0	0.17	10
	D	iP	16	02	44.2		
		iS			56.3		
	T	iP			53.2		
	K	iP		03	03.9		
	D	eP	16	10	23.8		
		eS			35.3		
	T	eP			33.1		
	K	eP			43.4		
	K	iP	17	02	45.0		
	D	iP			52.3		
	T	iP			53.8		
		eS		03	27.6		
	D	iP	18	07	40.0		
		iS			51.8		
	T	iP			50.0	0.17	23
	K	eP		08	00.3		
	K	eP	19	42	16.2		
	T	eP			29.8		
	D	eP			29.9		
	K	iP	19	51	37.4		
		iS		52	42.9		
	D	iP		51	43.9		
		eX			45.7		
	T	iP			46.0	0.17	28
	T	iP	20	59	27.4		
	D	iP			29.9		
		eS			37.0		
	K	eP			37.8		
JULY. 26	K	eP	03	16	28.0		
	D	eP			29.9		
	T	iP			33.4		
		iS		17	30.4		
	K	eP	07	42	46.8		
	D	eP		43	02.9		
		eS			46.6		
	D	iP	07	49	37.4		
		iS			49.7		
	K	eP			57.7		

Date	Station	Phase	Time (G.M.T.)			T	Am
JULY. 26	D	iP	12	21	59.3		
		iS		23	25.4		
	K	iP		22	09.6		
		iS		23	46.7		
	K	eP	14	46	08.1		
	D	eP			21.7		
	K	eP	16	54	56.0		
	D	eP		55	09.0		
	K	eP	17	18	46.9		
	D	eP		19	02.8		
	D	eP	19	04	35.0		
	T	eP			45.5		
JULY. 27	D	iP	20	53	07.1		
	K	eP			13.0		
	T	eP	05	59	01.6	0.17	6
		eS	06	00	36.4		
	D	eP	05	59	08.1		
	K	eP			18.3		
	T	iP	14	18	32.7	0.17	14
	K	eP			38.5		
	D	eP			44.0		
		eS		19	17.8		
	K	eP	22	48	19.3		
	T	eP			31.6	0.5	21
JULY. 28		eS		49	12.5		
	D	eP		48	32.2		
	K	iP	23	01	42.3		
	T	iP			54.8	0.17	4
	D	eP			57.5		
	D	iP	02	30	31.4		
		iS			38.9		
	K	iP			35.3		
	T	iP			37.0		
	T	iP	05	44	08.8		
	K	iP			10.7		
	D	iP			15.0		
JULY. 29		eS			29.5		
	K	eP	06	49	03.4		
		eS		50	18.8		
	D	eP		49	13.3		
	T	eP			13.9	0.17	4
	K	eP	07	10	44.3		
		eS		11	54.8		
	T	eP		10	53.6	0.5	10

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 28	T	iP	09	46	08.7		0.5	72
		iS		47	32.5			
	D	iP		46	18.3			
		eS		47	46.8			
	K	iP		46	21.8			
	T	eP	14	09	34.0			
		eS		10	43.8			
	K	eP			47.7			
	T	eP	14	36	00.8	"	1.5	90
	D	iP			03.5			
	D	eP	17	36	35.5	"		
	T	eP			39.9		0.5	6
	D	eP	20	16	09.7	"?		
	T	eP			12.7			
	K	eP	22	09	04.4			
	T	eP			17.1			
		eS			49.7			
	D	eP			21.0			
JULY. 29	D	eP	22	49	05.0	"		
		eX			07.2			
		eS		52	30.0			
	T	eP		49	13.5		1.1	44
	K	eP	23	46	31.9	"		
	D	eP			40.0			
	T	eP			40.9		0.5	10
	T	eP	01	31	54.2			
		eS		32	25.6			
	D	eP			03.0			
	K	iP	02	01	38.8			
	T	iP			42.9			
	D	iP			52.2			
	T	eP	02	59	17.8		0.5	48
		eS	03	00	45.3			
	D	eP	02	59	27.9			
		eS	03	01	02.2			
	K	eP	02	59	35.9			
	K	eP	06	16	57.4			
		eS		18	16.4			
	T	eP		17	07.7		0.17	9
		eS		18	34.2			
	T	iP	08	47	59.1		0.5	24
	D	iP		48	08.4			
		eS		49	17.8			
	K	eP		48	11.6			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 29	T	ePKP	10	43	12.7	"	1.2	109
		epPKP			54.1			
		ePP		45	49.4			
	D	ePKP		43	15.4			
		epPKP			57.1			
	K	ePKP			15.7			
	T	eP	11	29	31.6		0.5	8
		eS		31	25.0			
	D	eP		29	40.8			
		eS		31	43.0			
	K	eP		29	43.9			
	T	iP	12	22	52.3		0.17	21
		eS		23	55.3			
	K	iP			03.5			
	D	iP			10.7			
		eS		24	11.0			
	T	iP	17	11	15.7			
	D	iP			21.4			
		eS			35.9			
	K	eP			23.4			
JULY. 30	T	eP	17	24	06.7			
		eS		25	50.0			
	D	eP		24	12.2			
	T	eP	22	01	39.9	"	0.5	8
		eS		03	56.1			
	D	eP		01	49.8			
	T	ePKP	00	19	12.3	"	1.5	65
	D	ePKP			14.8			
	K	eP	03	40	31.7	"		
		eP			42.5			
	D	eS		43	16.9			
	T	eP		40	45.6		1.0	150
		eS		43	19.5			
	T	eP	11	02	46.5	" ?		
	K	iP	12	26	01.9	"		
	D	eP			13.6			
		eS		28	54.2			
	T	eP		26	14.5		0.17	4
		eS		28	54.5			
	K	eP	13	43	08.2	"		
	D	eP			11.5			
	T	eP			12.5		0.5	12
	T	eP	15	43	03.0	" ?		
	K	iP	17	34	33.6	"		
	T	iP			37.9		1.0	140
	D	iP			40.8			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
JULY. 30	K	eP	21	27	27.7			
	T	eP			41.9			
	D	eP			43.5			
		eS		28	39.0			
	T	eP	23	02	44.4			
	D	eP			55.3			
JULY. 31		eS		03	21.5			
	K	eP		02	56.3			
	T	iP	01	37	27.0			
	K	iP			34.1			
	D	iP			34.8			
		eS			48.9			
	T	iP	05	55	59.7			
	K	iP		56	03.8			
	D	iP			04.7			
		eS			16.0			
	K	eP	16	01	40.8	"		
	D	eP			54.8			
	T	eP			54.8		1.0	18
		eS		04	20.6			
	T	iP	17	06	07.0	"	0.5	18
	D	eP			13.3			
	K	iP	18	46	41.8			
	D	iP			42.1			
		eS		47	25.8			
	T	iP		46	46.5		0.17	20
	D	eP	22	06	34.2	"?		
	K	iP	23	47	08.0			
	T	eP			21.2		0.5	46
	D	eP			22.0			
		eS		49	06.9			
	K	eP	23	54	06.8	"?		
	D	eP			14.9			

Preliminary Bulletin
of the Dodaira Micro-earthquake Observatory
and its Substation

Aug , 1967

Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions :

Am : Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.

T : Period in sec of the measured P maximum

" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time (G.M.T.)			"	T	Am
Aug. 1.	D	eP	01	33	00.3	"		
	D	eP	03	36	30.8	"		
	T	eP			32.1		0.5	15
	D	eP	05	31	43.9			
	T	eP			47.9			
	K	eP			53.4			
	D	eS		32	14.8			
	T	eP	14	02	16.8			
	D	eP			27.0			
	K	eP			29.3			
	D	eS		04	15.2			
	T	eP	14	45	08.1			
	K	eP			19.3			
	D	eP			20.5			
	D	iS			51.2			
	K	iP	16	31	42.2			
	T	iP			42.7			
	K	eS		32	22.9			
	D	eP	18	51	38.6			
	T	iP			44.9			
	K	eP			49.7			
	T	eS		52	38.9			
	T	eP	19	34	51.9			
	D	eP		35	00.0			
	K	eP			08.4			
	D	eS		36	22.5			
AUG. 2	D	iP	06	32	46.5			
	D	eS		33	03.8			
	K	iP		32	49.2			
	T	eP			57.2			
	D	eP	06	38	48.8	"		
	T	eP	10	45	30.0			
	T	eS			57.6			
	D	eP			40.1			
	K	eP			43.4			
	T	iP	10	52	36.4			
	D	iP			47.1			
	D	eS		53	18.5			
	K	eP		52	49.9			
	D	eP	11	17	54.5	"		
	T	iP	13	36	50.7			
	D	iP			59.4			
	D	eS		37	15.4			
	K	iP		37	03.3			

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 2	T	eP	14	17	36.7	1.0	54
	D	eP	14	17	38.5		
	T	eP	15	00	24.0	0.5	21
	T	eS		01	21.8		
	D	eP			32.4		
	K	eP			39.6		
	D	eP	18	26	38.4	0.5	25
	K	eP			38.9		
	T	eP			42.1		
	T	iP	19	09	00.5		
	K	iP			08.0		
	D	iP			11.2		
	D	eS			43.3		
Aug. 3	T	iP	01	44	02.3		
	D	eP			06.0		
	D	iS			33.8		
	K	eP			18.7		
	K	eP	01	49	55.0	0.5	39
	T	eP		50	05.5		
	D	eP			06.9		
	D	eS		53	07.5		
	T	iP	05	05	02.6		
	K	eP			10.6		
	D	eP			13.8		
	D	eS			35.4		
	D	eP	07	17	14.5		
	D	eP	08	58	02.4		
	T	iP	12	13	03.6		
	D	iP			07.2		
	D	eS			14.9		
	K	iP			12.2		
	D	eP	15	37	49.3		
	D	eP	19	17	36.2		
	D	eP	20	31	39.3		
	T	eP	21	45	03.5		
	D	eP			08.5	1	55
	D	iP	23	24	08.1		
	T	eP			11.8	0.5	9.8
Aug. 4	D	eP	01	05	06.2		
	D	eP	06	04	49.3		

Date	Station	Phase	Time (G.M.T.)		T	Am
Aug. 4	D	eP	07	06	20.3	Explosion? 0.5 9.5
	T	iP			23.6	
	T	eP	07	38	54.1	0.5 9.1
	D	eP			54.5	
	K	iP	10	40	54.5	
	T	iP			58.1	
	D	eP		41	02.1	
	D	eS			14.4	
	T	iP	10	42	49.4	
	K	eP		43	00.4	
	D	eP			00.9	
	D	eS			25.3	
	K	eP	14	47	48.2	
	T	eP		48	01.9	
	D	eP			03.0	
	T	iP	16	29	15.8	
	D	iP			17.2	
	D	eS			27.1	
	K	eP			25.5	
	K	eP	19	08	30.4	
	K	eS		09	18.0	
	D	eP		08	30.7	
	T	eP			34.5	
	D	iP	19	25	02.1	
	D	eS			15.6	
	T	eP			14.3	
	K	eP			21.2	
	T	eP	01	46	53.6	
Aug. 5	T	eS		48	30.3	
	D	eP		47	04.1	
	K	eP			06.8	
	T	iP	05	31	33.3	
	T	iS		33	10.6	
	D	eP		31	41.6	
	K	eP			46.4	
	D	eP	11	51	04.8	
	T	eP			07.4	
	T	iP	18	13	04.5	
	D	eP			11.1	0.5 13
	K	iP	19	01	28.9	
	K	eS			33.7	
	T	eP			32.4	
	D	eP			33.7	
	D	eP			33.7	

Date	Station	Phase	Time (G.M.T.)	T	Am
Aug. 5	T	iP	22 03	38.6	
	T	eS	04	10.4	
	D	eP	03	47.0	
	K	eP		53.2	
Aug. 6	T	eP	01 09	53.0	
	T	eS	11	05.0	
	D	eP	09	59.5	
	K	eP	10	07.2	
	T	iP	01 44	27.0	
	T	eS		37.0	
	K	iP		27.3	
	D	eP		35.8	
	K	iP	13 56	16.9	
	T	eP		23.2	
	D	eP		31.2	
	K	iP	14 51	12.6	
	D	eP		16.9	
	D	eS	54	05.5	
	T	eP	51	24.1	0.5 9.1
	K	eP	15 38	40.7	
AUG. 7	K	eS	39	22.1	
	D	eP	38	42.2	
	T	eP		45.9	
	D	eP	17 19	27.5	
	D	eP	22 53	41.0	
	T	eP		42.4	
	D	eP	06 38	53.0	
	T	iP		54.2	
		epP	39	11.1	1.0 63
	T	eP	10 03	42.9	
		eS	05	08.8	
	T	iP	11 23	12.3	
	D	eP		18.4	
	D	iP	11 52	12.3	
		eS		42.6	
	K	iP		17.1	
AUG. 7	T	iP		21.5	0.5 8
	T	eP	13 37	46.5	0.17 3
		eS	38	42.7	
	D	eP	37	55.7	
	K	eP	38	03.3	
	T	iP	15 58	48.3	
	D	iP		57.4	
	K	iP	59	02.6	

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 7	D	iP	16	11	43.9		
	K	iP			45.8		
	T	iP			55.5	0.17	5
		eS		12	33.6		
	T	iP	16	41	24.7		
	D	iP			35.8		
	K	iP			36.2		
	K	iP	16	47	00.5		
	T	eP			12.7	0.17	10
		eS			47.8		
AUG. 8	D	eP			15.9		
	D	eP	17	18	56.8		
		eX		19	15.8		
	T	iP	01	17	57.9		
	K	iP		18	06.9		
	D	iP			07.9		
		eS			32.1		
	T	iP	06	54	19.0		
	D	iP			24.0		
		eS			32.2		
	K	iP			29.0		
	K	iP	11	43	11.3		
	T	iP			24.2		
	D	iP			28.3		
	D	eX	13	26	20.4		
	T	iP	14	30	50.7		
	D	iP		31	01.8		
		eS			23.5		
	K	iP			01.8		
	T	iP	16	06	18.6		
	D	iP			28.9		
		iS			51.2		
	K	iP			32.1		
	D	eP	18	29	07.8	?	
	D	eP	18	51	05.8	?	
		eX		52	04.9		
	K	iP	20	31	41.2		
		eS		33	26.0		
	D	eP		31	53.2		
	T	iP			53.8	0.5	16
AUG. 9			7*	28			
	K	iP	07	26	18.1		
		eS			48.0		
	T	iP			30.1	0.17	14
	D	iP			30.3		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 9	K	eP	08	27	52.1		
	D	eP			57.0		
		eScP		33	26.7		
		eS		34	16.0		
	T	eP		28	00.0	0.5	53
		iX	10	10	31.1		
	T	iP	09	33	30.7	1.2	84
	D	eP			37.2		
	K	eP			46.3		
	T	iP	10	22	12.7		
	D	iP			18.0		
		eS			26.8		
AUG. 10	K	iP			18.8		
	D	iP	12	25	43.2		
	K	iP			47.9		
	T	iP			48.0	0.17	8
		iS		26	26.4		
	K	iP	15	23	55.0		
		eS		25	55.6		
	T	iP		24	07.5	0.5	17
	D	iP			07.5		
	T	iP	19	19	12.4	0.17	7
		iS		20	07.1		
	D	eP		19	19.2		
AUG. 10	K	eP			26.9		
	K	iP	22	18	37.7		
		eS		19	48.1		
	D	eP		18	45.4		
	T	eP			47.3	0.17	7
	T	eP	02	16	05.6	0.17	7
		eS		17	23.8		
	T	iP	11	24	08.7	0.5	104
	D	iP			18.3		
		eS		26	29.8		
	K	eP		24	21.1		
	K	eP	21	52	53.5		
AUG. 10	D	eP			57.0		
	T	iP		53	00.8	0.5	58
	K	iP	22	30	01.3		
		eS		31	09.3		
	D	eP			10.3		
	T	eP			10.7	0.17	4
AUG. 11	D	iP	01	47	48.9		
	K	iP			49.7		
	T	iP			53.7		
		eS		48	37.1		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 11	T	iP	08	04	29.8		
	K	iP			30.1		
	D	iP			30.5		
		iS			44.7		
	K	eP	10	10	25.2		
	D	iP			25.6		
		iS		11	29.6		
	T	iP		10	29.8	0.5	32
	K	iP	18	57	37.3		
		eS	19	00	05.2		
	D	iP	18	57	49.5		
	T	iP			50.3	1.1	216
		iX			53.4		
AUG. 12	T	iP	04	31	20.4		
	D	iP			30.1		
		eS		32	05.2		
	K	iP		31	33.4		
	K	eP	09	50	55.6		
	T	eP			58.5	1.4	77
		eX		51	36.5		
	D	eP			00.4		
		eX			41.4		
		eS	10	00	18.0		
		esS		01	01.0		
	T	iP	10	45	43.0	0.5	23
AUG. 13	D	iP			49.5		
	K	eP	12	40	35.4		
	T	eP			38.7		
	D	eP			43.3		
	K	eP	16	10	18.6		
	D	eP			27.5		
		eS		11	49.5		
	D	iP	00	19	05.9		
		iS			17.9		
	K	iP			18.3		
	T	iP	04	48	07.7		
	D	iP			17.8		
AUG. 13		iS			34.7		
	K	iP			18.9		
	K	iP	05	14	23.5		
	T	eP			36.1	0.17	14
	D	eP			38.7		
		eS		15	24.1		
	T	eP	17	02	33.5		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 13	K	iP	08	28	34.7		
		iS		29	09.0		
	T	eP		28	47.2	0.17	11
		eP			50.4		
	D	eP	16	52	10.9		
		eX			22.6		
	T	eP			12.9		
		iP	18	53	37.6		
	K	iP			39.4		
		iP			42.1		
AUG. 14	D	eS			54.6		
		iP	20	07	54.1		
	T	eS		08	44.2		
		epPcS		21	08.6		
	K	iP		07	58.7		
		iP			59.4		
	K	eP	22	22	54.5		
		eP			59.8		
	D	eP		23	00.5	1.3	67
		eX			44.6		
AUG. 15	T	eX		25	08.0		
		eP	11	57	06.5	0.17	3
	D	eS		58	06.1		
		eP		57	15.3		
	T	eP	12	15	56.0	0.17	4
		eS		16	58.4		
	D	eP			04.8		
		eP			15.1		
	D	eX	12	55	26.4		
		iP	13	21	06.5		
AUG. 16	K	iP			07.2		
		iP			10.8	0.17	16
	T	eS			57.2		
		iP	13	51	25.7	0.17	18
	D	iP			35.2		
		eS		52	08.4		
	K	eP		51	40.7		
		eP	16	53	42.2	0.17	2
	T	eS		54	51.4		
		eP		53	49.4		
AUG. 17	T	iP	17	22	05.1		
		iP			14.1		
	D	eS			31.2		
		eP			16.8		
	K	eP					
		eP					
	D	eP					
		eP					
	T	eP					
		eP					

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 14	D	eP	23	38	40.9		
	K	eP			43.5		
		eS		39	32.4		
	T	eP		38	45.7	0.17	5
AUG. 15	D	eP	09	28	19.7		
	T	eP			24.4	1.1	107
		eX			28.5		
	K	eP			28.6		
	K	iP	10	26	15.0		
		eS		28	44.6		
	D	iP		26	25.7		
	T	iP			26.5	0.5	12
	T	iP	10	30	06.3	0.17	4
		iS		31	09.7		
	D	eP		30	14.6		
	K	iP	10	47	41.9		
		eS		48	38.4		
	D	iP		47	41.9		
	T	iP			50.5	0.17	3
	D	iP	15	32	20.2		
		eS			31.6		
	K	iP			22.1		
	T	iP			23.8		
	D	iP	15	38	33.3		
	T	iP			35.1	1.2	263
		iX			38.3		
	K	eP			47.1		
	K	eP	21	58	24.8		
	D	iP			30.9		
	T	iP			33.4	0.17	4
		eS		59	45.8		
	K	iP	23	24	27.5		
	D	eP			40.0		
	T	iP			40.6	0.17	8
AUG. 16	K	eP	03	57	49.2		
		eS		58	46.9		
	D	iP		57	54.7		
	T	eP			57.7	0.17	7
	K	iP	08	08	07.5		
	T	iP			17.9		
	D	iP			23.0		
		eS			58.5		
	T	eP	10	28	10.3	0.5	7
		eS			44.3		
	D	eP			19.6		
	D	eP	14	14	22.8		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 16	T	iP	18	33	47.2		
	D	iP			57.6		
		eS		34	22.4		
	K	iP		33	59.2		
	D	eP	19	27	59.6		
	K	eP		28	00.7		
	T	eP			04.0	1.2	76
AUG. 17	T	iP	01	26	43.7		
	K	iP			43.9		
	D	iP			46.1		
		eS		27	00.0		
	T	iP	05	00	09.7	0.17	2
		eS		01	11.8		
	D	eP		00	16.4		
	K	eP	10	02	34.4		
		eS		03	40.0		
	T	eP		02	43.9	0.17	2
	T	eP	12	25	27.5	0.17	8
		eS			58.8		
	D	eP			37.8		
	K	eP			40.6		
	T	iP	14	32	49.7		
	D	iP			57.9		
		eS		33	45.8		
	K	iP			03.4		
	T	eP	14	59	32.2		
		eS	15	01	24.2		
	D	eP	14	59	37.3		
	T	eP	15	36	23.4		
		eS		38	02.1		
	D	eP		36	33.4		
	K	eP	16	14	16.1		
		eS		15	40.8		
	D	eP		14	27.3		
	T	eP			27.8		
AUG. 18	D	eP	22	50	55.7		
	T	eP	23	39	48.0	0.5	9
	K	eP			49.3		
	D	eP			50.3		
	D	eP	03	38	40.2		
		eX			49.7		
		eS		41	27.0		
	K	eP		38	46.7		
		eX			55.8		
	T	eP			49.7	1.6	160
		eS		41	34.1		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 18	D	eP	03	43	50.5		
	T	eP			55.5		
	K	eP	05	38	10.5		
	D	iP			18.9		
		eS		39	24.2		
	T	iP		38	21.4	0.17	14
AUG. 19	K	eP	16	37	18.5		
	D	eP			30.1		
	T	eP			32.6		
	K	iP	05	19	00.6		
		eS		20	15.9		
	D	iP		19	09.4		
	T	iP			11.0		
	K	eP	08	16	37.8		
	D	eP			45.7		
	T	eP			46.8	0.17	4
	K	iP	09	19	57.4		
		eS		20	26.3		
	D	iP			07.9		
	T	iP			08.8	0.17	6
	K	eP	09	38	30.4		
	T	eP			42.5	0.17	5
	D	eP			42.6		
	T	iP	10	56	03.2	0.17	25
		eS		57	03.8		
	D	eP		56	09.8		
	K	eP			18.0		
	T	iP	12	15	38.4		
		eS		16	38.2		
	D	iP		15	47.5		
	K	iP			51.9		
	T	iP	12	18	46.4		
		eS		19	45.3		
	D	iP		18	55.5		
	K	eP			59.0		
	D	eP	13	05	15.6		
	T	iP			20.1	0.17	12
	K	eP			23.4		
	T	iP	13	38	31.0		
	D	iP			36.9		
		eS			51.4		
	K	iP			39.4		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 19	K	eP	15	33	58.0		
		eX		37	09.9		
	D	eP		33	58.4		
		eX		37	12.4		
		eS		40	54.6		
		eSS		44	42.6		
	T	eP		34	01.8	1.6	59
		eX		37	12.5		
		eSS		44	47.4		
	K	iP	15	51	07.1		
	T	iP			13.1	0.5	32
	D	iP			14.7		
	T	iP	15	56	19.2	0.17	16
		eS		57	18.4		
	D	iP		56	27.7		
	K	eP			30.8		
	D	iP	19	57	44.0		
	T	iP			49.2	0.17	10
	K	eP			50.5		
	K	eP	21	39	36.3		
		eS		40	25.5		
	D	iP		39	41.0		
	T	iP			44.2	0.17	9
AUG. 20	T	eP	00	48	43.9		
	D	iP			52.1		
		eS		49	34.6		
	K	iP		48	55.2		
	T	eP	01	12	24.7	0.5	77
		eS			55.7		
	D	eP			28.1		
	K	eP			41.4		
	D	eP	02	10	17.8		
	T	eP			22.3	1.3	173
	K	iP			26.4		
	T	iP	03	41	37.3		
		eS			49.5		
	K	eP			48.4		
	D	iP			48.9		
	T	eP	03	53	58.6		
	D	eP		54	07.3		
		eS		55	14.1		
	T	eP	04	19	59.1		
		eS		20	41.4		
	D	eP			07.0		
	K	eP	06	59	12.8		
	T	eP			24.4		
	D	eP			28.2		
		eS	07	00	17.7		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
AUG. 20	K	eP	10	19	28.5			
	D	eP			37.4			
		eS		20	16.5			
	T	eP		19	39.0			
	T	iP	15	23	14.7	"	10	28
		iX			21.5			
		iX			33.6			
	K	iX			22.8			
		eX			34.7			
	D	iP			16.7			
		iX			23.8			
		eX			37.8			
	K	eP	23	33	15.5			
	T	eP			28.9			
	D	eP			30.5			
		eS			37.9			
AUG. 21	D	iP	02	28	22.7			
		iS			36.8			
	T	iP			26.7			
	K	iP			29.8			
	T	iP	06	17	25.0			
	K	iP			28.4			
	D	iP			34.5			
	D	eP	07	42	02.8	"		
		eX		43	20.0			
	K	eP		42	05.0			
		eX		43	21.5			
	T	eP		42	07.9		1.0	113
		iX		43	23.3			
	D	iP	15	21	18.7			
		iS			29.6			
	T	iP			21.4			
	K	iP			28.7			
AUG. 22	T	iP	17	20	02.6		0.17	19
		iS		21	12.4			
	D	iP		20	10.4			
	K	iP			17.1			
	D	eP	21	44	38.8	" ?		
	T	iP	00	30	48.0			
	D	iP			51.1			
		eS		31	01.3			
	K	iP		30	04.8			

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 22	T	eP	13	21	53.7	2.0	237
		eX		22	02.4		
		eX			19.9		
	D	eP		21	54.4		
		eX		22	02.6		
		eX			17.7		
	K	eX			02.6		
	K	eP	13	36	56.8		
		eX		37	10.9		
	D	iP		36	58.8	0.5	21
		eX		37	12.2		
	T	iP		36	59.2	1.2	77
		eX	17	37	12.5	0.5	28
	K	iP	14	01	13.6		
		iP			25.4		
	D	iP			25.5	0.17	6
		eS		02	16.0		
	K	eP	15	06	07.8		
		eP			21.5		
	D	eP			22.5		
	T	iP	16	31	43.2	0.5	12
		iP			53.3		
	D	iP			57.6	0.17	7
	T	iP	17	18	52.4	0.5	13
		iS		20	31.6		
	D	eP		19	01.9		
		eS		20	46.3	0.5	54
	T	eP	20	30	27.3	0.17	4
		eS		32	12.8		
	D	eP		30	37.0		
		eS		32	27.9		
AUG. 23	K	eP	20	58	43.8		
		eP			53.3	0.5	18
	D	eP			54.8		
	T	iP	18	50	06.1		
		iP			08.6		
AUG. 24	D	eP			17.6		
	T	eP	23	59	32.7	0.17	22
		eP			35.3		10
	D	eS	00	00	50.0	1.1	25
AUG. 24	T	iP	03	23	28.4		
		eX			40.5		
	D	eS		25	07.3		
		iP		23	37.3		
	K	eP			40.9		
AUG. 24	K	eP	10	42	31.5		
		eP			36.9	1.3	30
	D	eP			38.6		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 24	T	eP	12	05	24.0	0.5	13
		eS		06	57.3		
	D	eP		05	32.6		
	T	iP	12	49	42.1		
	D	iP			44.3		
	K	iP			52.0		
	K	eP	14	27	08.6		
	D	eP			11.9		
	T	iP			15.6	0.5	21
	K	iP	17	17	51.3		
	T	iP		18	01.2	0.5	28
		eX			04.1		
	D	eP			01.6		
		eX			07.8		
		eS		21	17.6		
AUG. 25		eScP?		25	38.1		
	D	eP	17	21	05.0		
		eX			20.0		
		eS		22	10.1		
	T	eP		21	07.9	0.5	12
		eX			25.4		
	T	eP	19	38	07.4	0.17	7
		eS		39	14.7		
	D	iP		38	08.1		
	D	iP	23	26	53.7		
	T	iP		27	06.1	0.5	54
		eS			37.0		
	D	eP	12	14	35.4		
	T	eP			37.2		
		eS		16	06.8		
AUG. 26	D	iP	15	02	19.7		
	T	iP			22.3		
	T	iP	18	47	27.3		
	D	iP			31.7		
		eS			42.5		
	T	eP	22	59	31.5	1.1	22
	D	eP			42.6		
	T	eP	23	03	57.4	1.1	25
	D	eP		04	08.2		
	D	eP	00	41	51.7		
		ePcP		45	36.7		
		eS		46	16.8		
		ePcS		49	19.3		
		eScS		53	01.6		
	T	iP		41	52.8	0.8	306
		ePcP		45	37.0		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 26	D	eP	00	55	17.3		
	K	eP	00	58	27.6		
	D	eP			31.0		
	T	eP			31.2	1.2	123
	D	eP	01	47	01.4		
	T	eP			01.5	1.0	37
	K	eP	02	12	14.6		
	D	eP			17.8		
		eS		16	34.3		
		eScP?		20	46.6		
		eScS		23	29.0		
	T	iP		12	19.8	1.1	294
	K	eP	03	35	04.1		
	D	eP			09.0		
	T	eP			10.3	1.1	87
	D	eP	05	30	28.0		
	T	eP			28.5		
	T	eP	05	52	02.0	1.0	19
	T	eX			10.9		
	D	eP			04.0		
AUG. 27	K	eP	08	00	12.0		
	T	eP			14.3		
	T	eP	11	15	02.7	1.4	40
	T	eS		16	38.9		
	T	eP	12	29	35.8	1.1	32
	T	eP	18	30	56.5	1.9	200
	T	eX	18	31	08.8		
	D	eP			59.0		
	D	eX		31	11.6		
	T	eP	21	53	00.7	1.4	80
	T	eP	02	46	10.9		
	T	eS		47	02.2		
	D	eP		46	23.1		
	K	eP			24.3		
	T	eP	07	01	40.6		
	D	eP		01	48.8		
	T	eP	07	09	03.1	1.6	89
	D	eP	08	27	14.5		
	D	eS		28	16.0		
	T	eP		27	26.2	0.5	4.0

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 27	K	eP	14	24	00.0		
	D	eP			04.3		
	T	eP			06.1	0.5	15
	T	eX			14.6		
	T	eP	15	07	53.2		
	T	eS		08	06.0		
	K	eP		07	56.2		
	D	eP		08	03.2		
	T	iP	16	55	19.5		
	T	eS			25.1		
	D	eP			23.5		
	K	eP			28.1		
	T	eP	17	10	40.2	1.4	107
	D	eP			20.5		
AUG. 28	T	eP	17	35	11.2		
	T	eS			47.6		
	D	eP			20.2		
	T	eP	01	15	11.6	1.2	66
	D	eP			12.3		
	T	iP	04	25	14.8		
	D	iP			22.0		
	D	eS			32.7		
	K	iP			22.5		
	D	eP	07	36	26.0	1.2	76
	T	eP			29.8		
	T	eX			37.6		
	K	iP	10	51	54.5		
	T	iP			55.1		
AUG. 29	T	eS		52	05.5		
	D	eP			04.5		
	K	eP	18	01	05.7		
	T	eP			18.1		
	D	eP			21.4		
	D	eS		02	01.8		
	D	iP	18	24	26.7		
	T	iP			30.5		
	T	eS		25	06.3		
	K	iP		24	31.3		
	K	iP	03	45	48.6		
	D	iP			49.0		
	T	iP			53.2		
	K	eP	07	45	49.9		
	D	eP			52.1		
		eX		46	02.0		
	T	eP		45	56.9	0.5	34

Date	Station	Phase	Time (G.M.T.)		"	T	Am
AUG. 29	K	iP	09	09	44.2		
	T	iP			45.1		
	D	iP			53.3		
	D	eP	10	57	33.7		
	T	eP			36.4		
	T	eP	14	30	57.6	0.17	10
		eS		31	49.0		
	D	eP		30	58.3		
	D	eP	17	35	34.7		
	T	eP			36.2	0.17	2
		eS		36	41.3		
	D	eP	19	30	30.4		
	T	eP			35.1	0.17	24
		eS		31	29.6		
AUG. 30	T	eP	20	44	21.2	0.17	2
		iS		46	08.3		
	D	eP		44	31.0		
		eS		46	24.3		
	T	iP	00	26	18.8	0.17	8
		iS			26.5		
	T	iP	01	15	44.5	0.5	39
	D	iP			55.0		
		iS		16	40.0		
	K	eP		15	55.5		
	K	iP	02	06	23.3		
	T	iP			24.7		
	D	iP			27.6		
	T	iP	02	13	52.7		
	D	iP		14	02.3		
		iS			17.3		
	K	eP			04.2		
	K	eP	02	54	43.7		
		eS		55	34.5		
	T	eP		54	52.8	0.17	3
AUG. 31	D	eP	04	28	36.0		
		epP?			41.7		
		ePP		29	43.6		
		ePPP		30	00.3		
		ePcP		31	24.4		
		eS		33	52.5		
		ePcS		35	09.8		
		eScS		39	10.2		
	K	eP		28	37.0		
	T	eP			37.6	1.1	115
		epP?			45.6		
		ePcP		31	24.6		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 30	T	iP	08	09	51.3		
	D	iP			56.8		
	K	iP			59.5		
	D	eP	11	15	20.1		
	T	eP			23.4	1.4	59
	T	iP	12	07	23.7		
	D	iP			25.5	1.2	70
		eP		08	03.2		
		eX			37.6		
	T	iP	13	36	21.5		
	D	iP			30.8	1.0	145
		eX			51.3		
		iS		38	49.5		
	D	eP	13	38	05.7		
		eS		40	10.4		
AUG. 31	T	eP	20	06	29.9		
		eX			41.7	0.5	14
		eS		08	37.3		
	D	eP		06	38.3		
		eS		08	55.5		
	D	iP	20	33	18.3		
	T	iP			27.6	0.5	32
		eX			50.0		
	T	iP	23	21	43.1		
		iS		23	03.4		
	D	iP		21	47.3		
	T	iP	03	26	09.2		
	K	eP			15.6		
	D	iP			19.7		
		eS			38.1		
AUG. 31	K	eP	05	53	30.9		
	T	iP			43.4	0.17	6
	D	eP			44.0		
	D	eP	13	43	54.7		
	T	eP			59.0		
	T	iP	13	56	24.6		
		eS			42.0		
	D	iP			35.7		
	T	iP	15	20	52.2		
		eS		23	50.8	0.5	39
	D	iP		20	52.6		
		eS		23	53.5		

Date	Station	Phase	Time (G.M.T.)			T	Am
AUG. 31	T	iP	16	42	06.7		
	D	iP			15.2		
		eS			51.0		
	K	iP			22.5		
	D	eP	18	31	01.3		
	T	eP			01.4	0.5	10
		eS		33	02.0		
	K	iP	19	03	53.0		
	T	iP			56.9	1.3	431
	D	iP			59.5		

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Preliminary Bulletin

of the Dodaira Micro-earthquake Observatory

and its Substation

Sep., 1967

Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : Am : Amplitude in millimicron (peak to trough) of short
period vertical P motion maximum within few cycles
after the onset.

T : Period in sec of the measured P maximum

" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP. 1	K	iP	03	38	383	"		
	T	iP			458			
		eScP		44	09.7		0.5	55
	D	iP		38	460			
		ePP		40	23.1			
		ePcP			37.0			
		eScP		44	10.4			
		eS			50.7			
		eScS		48	29.5			
	K	eP	05	08	142			
	T	eP			23.9		0.17	3
		eS		09	25.4			
	T	iP	06	08	04.6			
	K	eP			14.7			
	D	iP			15.4			
		iS			34.3			
	D	eP	11	36	11.8			
	T	iP			15.5		0.17	10
		eS		37	19.0			
	K	iP		36	21.0			
	T	eP	15	13	32.2	"		
	D	eP			35.7			
	T	eP	15	47	54.8		0.17	3
		eS		48	54.3			
	D	eP			06.1			
	K	eP	18	37	02.0			
		eS			56.5			
	T	eP			14.3		0.17	3
	D	eP			16.8			
	T	iP	19	46	22.4		0.17	19
		eX			24.9			
	D	iP			32.6			
		eS		47	14.2			
	K	eP		46	34.7			
	T	iP	22	44	15.7	"	1.0	177
		eX			18.6			
	D	iP			24.4			
		iS		46	16.2			
	K	eP		44	29.8			
SEP. 2	K	iP	04	51	41.0			
	D	iP			49.6			
	T	iP			54.1			
		eX		52	02.1			
		eS			20.9			
	K	iP	05	15	44.2			
	D	iP			52.8			
		eS		16	17.2			
	T	iP		15	57.7		1.0	139

Date	Station	Phase	Time(G.M.T.)	"	T	Am
SEP. 2	T	eP	06 31			15.7
		eS	32			41.9
	D	eP	31			23.0
	D	iP	12 37			15.6
		iS				27.2
	K	iP				23.8
	T	iP			0.5	5.6
		eX				31.1
	K	iP	17 28			03.3
	T	iP				05.3
	D	iP				15.5
	T	iP	18 27			29.2
	D	iP				34.4
		iS				45.5
	K	iP				37.5
SEP. 3	K	iP	01 31			09.4
	D	eP				16.3
		eP?				48.5
		ePPP?	33			49.0
		eS	37			39.4
		eScS	41			03.5
	T	eP	31		0.5	2.0
	D	iP	04 48			08.6
		eX				16.3
		eX	50			11.4
	T	eP	48		1.3	5.4
	T	eP	06 32		1.1	3.5
	D	eP				53.1
	K	eP?	07 34			40.0
		eS?	36			11.4
	T	iP	08 39		0.17	4
		iS	41			14.9
	D	eP	39			57.5
	T	iP	08 50		0.17	1.6
		iS	51			05.8
	D	eP	50			24.2
	K	eP				30.4
	T	eP	09 29			22.8
	D	eP				27.1
	K	iP	11 25			23.1
	T	iP				26.6
	D	iP				34.1
		iS				58.0
	T	eP	11 39		1.2	4.6
	D	eP				34.4
		eP				37.1
	K	eX	40			48.3

Date	Station	Phase	Time (G.M.T.)			"	T	Am
SEP. 3	T	iP	12	34	045		0.17	3
		eS		35	53.8			
	D	eP		34	09.3			
	K	eP			18.9			
	D	iP	12	36	58.9			
	K	iP			59.1			
	T	iP		37	03.2		0.17	21
		eS			42.0			
	T	iP	21	04	03.2		0.17	14
	K	iP			06.3			
	D	iP			12.1			
		eS			29.7			
	T	iP	21	23	21.1		0.5	18
	K	iP			25.2			
	D	iP			30.6			
	T	ePKP	21	36	38.3	"	1.3	40
		eX1			51.1			
		eX2		37	14.9			
SEP. 3	D	ePKP		36	42.4			
		eX1			54.1			
		eX2		37	16.8			
	T	iP	21	30	10.4			
	D	iP			14.9		0.5	6
		eS			31.4			
	K	iP			25.6		0.17	14
	T	iP	21	44	58.6			
	K	iP		45	02.0			
	D	iP			07.8			
		eS			26.1			
SEP. 4	T	iP	02	06	29.7		0.5	21
		eS		07	13.2			
	K	eP		06	38.8			
	D	iP			40.0			
	K	iP	03	20	52.8		0.5	28
	T	eP			55.4			
	K	eP	04	03	23.6	"	0.5	19
	T	iP			27.8			
		eX		04	26.9			
	D	iP		03	29.5			
		iX		04	28.6			
		eS		12	58.0			
	K	iP	06	16	12.1			
	D	iP			12.6		1.1	49
		iS			57.7			
	T	iP			17.2		0.17	12
	T	iP	09	54	26.3		0.17	7
		iS		55	37.6			
	D	eP		54	35.1			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
SEP. 4	K	iP	17	48	43.9			
	T	iP			46.2			
	D	iP			56.5			
		eX		49	00.0			
	K	iP	18	14	05.4			
	T	iP			07.4			
		eS			19.2			
	D	iP			17.7			
	K	iP	18	38	33.4			
	T	iP			46.9	0.17	14	
		eX			50.1			
	D	iP			47.9			
	T	eP	19	30	02.8	0.5	18	
	D	eP			08.6			
	K	eP			13.0			
	T	eP?	21	49	58.6			
		eS		51	20.8			
SEP. 5	D	iP	02	56	58.4			
		eS		57	31.4			
	K	iP			02.0			
	T	iP			02.8			
	D	eP	03	47	34.0	"	05	6
	T	eP			34.2			
	T	iP	05	29	20.8	0.17	14	
		eX			31.5			
		eS			56.7			
	D	iP			31.3			
	K	eP			33.5			
	T	eP	06	09	41.2	0.17	2	
		iS		11	28.6			
	D	eP		09	50.8			
		eS		11	46.4			
	D	iP	07	55	45.4			
	T	iP			49.5			
	K	eP			53.6			
	T	iP	12	56	09.3			
	D	iP			20.0			
		iS		57	04.0			
	K	iP		56	20.2			
	T	iP	13	22	37.2			
		iS		23	43.8			
	T	eP	16	36	14.2	"	1.1	49
	T	eP	17	41	26.0	0.17	12	
		eS			55.3			
	D	eP			36.5			
	K	eP			41.0			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP. 5	T	iP	18	40	33.1		0.17	16
		iS		41	39.1			
		eP		40	30.4			
	D	eP			46.9			
	K	iP	20	21	18.7			
		iP			19.2			
		iS			28.7			
	K	iP			25.0			
	D	iP	20	45	31.5			
		iP			31.6			
		iP			35.6		0.17	8
	T	iP	20	56	56.0			
		iP		57	03.9			
		eS			27.1			
	K	iP			10.4			
SEP. 6	T	eP	03	22	36.8	"		
		eS		25	08.9			
		eP		22	44.8			
	D	eS		25	31.0			
	K	iP	04	52	39.3	"		
		eP			43.6			
		iP			46.4		0.5	57
	D	iP	05	56	39.9			
		iP			51.8		0.5	44
		iS		57	13.7			
	K	eP		56	59.1			
	K	iP	07	33	48.4			
		iP			50.7			
		iP			54.0			
	D	eP	07	38	32.1	"		
		eX			44.2			
		eX			56.0			
	K	eP			35.4			
		eP			36.6		1.1	44
	T	iP	08	02	08.7			
		iP			12.8			
		eS			54.6			
	K	eP			23.3			
	T	iP	09	23	24.8			
		eP			34.5			
		iP			35.4			
	D	eS			52.0			
	T	eP	10	11	01.1			
		eS		12	24.2			
	T	eP	11	21	08.3			
		eS		22	23.5			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
SEP. 6	T	iP	14	39	40.9		0.17	10
		iS		40	28.0			
	D	iP		39	50.3			
	K	eP	21	55	50.7			
	K	iP	15	24	27.6			
	D	iP			30.2			
	T	iP	05	25	34.2		0.17	19
		iS			30.4			
	T	iP	17	32	06.4	"	1.4	73
		eX			25.2			
	D	eP	09	19	12.3	"	1.1	55
	T	eX	19	51	55.0	"		
SEP. 7	D	eX	10	08	56.1			
	T	eP	03	14	52.7		0.17	10
		eS		15	21.1			
	D	eP			02.6			
	K	eP	11	48	06.3			
	T	iP	03	57	41.8			
	D	iP			44.6			
		iS			53.2			
	K	iP	12	09	51.6		0.17	12
	T	eP	07	11	29.4			
		iS		12	55.7			
	D	eP	22	11	41.0			
		eS		13	10.2			
	K	eP	07	19	07.1	"		
	D	iP	01		10.8			
		eX		20	05.6			
		ePP			39.1			
		eS		24	23.3			
		eScP	09		53.2			
		eScS		29	00.2			
	T	eP	04	19	14.3		1.1	337
		eS		24	27.0			
		eScP			53.9			
	D	eP	11	19	20.4	"	1.2	67
	T	eP			20.8		0.5	19
	K	eP			25.1			
	T	eP	13	40	24.4		0.17	11
		eS		42	09.7			
	K	eP	14	11	03.9	"		
		eS	08	13	39.2			
	D	eP		11	16.9		0.5	55
	T	eP			18.5			
	K	iP	14	14	22.9			
	T	iP			34.7		0.5	35
		eS			52.3			
	D	iP			35.3			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP. 7	T	eP	15	14	153		0.5	6
		eS		16	21.1			
	K	eP	21	55	18.6		1.0	225
	D	iP			26.4			
SEP. 8	T	iP	10	26	28.1		0.5	55
		eS	05	00	20.4		0.17	10
	D	iP		01	06.2			
	K	eP		00	27.2			
					34.5			
	T	eP	09	19	49.1	"	1.1	55
	D	eP			51.5			
	T	eP	10	08	17.2		1.3	125
		eS			44.5			
	D	eP			29.4			
	K	eP			35.0			
	D	iP	11	48	06.7			
		iS			17.7			
	K	iP			07.6		0.5	9
	T	iP			14.0			
	D	iP	12	09	08.3		0.17	12
		eS			10.1			
				10	45.2			
	K	eP	22	42	44.4	"	0.5	9
	D	eP			48.9			
SEP. 9		eX		43	21.3			
	D	iP	01	51	17.4			
		eS		52	13.4			
	K	eP		51	24.4			
	D	eX	05	37	45.5	"		
	D	eP	06	20	13.8	"	0.5	25
		eP			14.5			
	T	iP	07	44	17.3		1.2	67
	D	iP			20.3			
		iS			28.4		0.5	25
	K	iP			27.8			
	T	eP	08	09	42.4		0.17	11
	D	iP			49.9			
	K	iP			50.9			
	K	iP	08	41	43.6	"	0.5	55
	T	iP			53.6			
	D	iP			54.2			
		eX		42	09.5			
		eS		45	09.9			

Date	Station	Phase	Time (G.M.T.)			"	T	Am	
SEP. 9	D	eP	10	25	38.3	"			
		eX		27	53.7				
	T	eP		25	39.1		1.8	22.3	
		eX		27	53.8				
	T	iP	10	26	16.2	"	0.5	6.5	
		eX		28	24.7				
	K	eP		26	18.7				
	D	eP			20.6				
		eX		28	28.6				
		eS		35	55.1				
	K	eP	14	49	01.9	"			
	D	eP			07.8				
	T	eP			08.7		1.3	12.5	
	T	eX	17	27	44.5	"			
	D	iP	21	15	54.2				
SEP. 10	T	iP			58.4				
	K	iP		16	04.7				
	T	eP	09	55	01.0		0.5	9	
		eS		56	34.8				
	D	eP		55	11.2				
		eS		56	50.9				
	K	eP		55	15.3				
	T	eP	17	28	15.0		0.5	9	
	D	eP			15.8				
		eS		29	29.0				
	D	iP	23	02	29.2				
		iS			45.9				
	T	iP			29.4				
	SEP. 11	K	iP	02	27	07.3			
			eS		28	33.0			
D		eP		27	17.1				
T		iP			18.5		0.5	28	
K		iP	02	55	45.6	"			
D		iP			52.8				
		eS		58	56.1				
T		eP		55	54.3		0.5	26	
D		iP	18	57	41.2				
T		iP			46.9				
K		iP			47.2				
SEP. 12		D	eP	00	43	20.0	"		
		T	eP			20.5			
						01.6			
						05.8			
					06.0				

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP. 12	T	eP	02	46	09.8		1.2	83
		eX			22.2			
		eS		48	03.8			
	D	eP		46	17.7			
		eS		48	19.5			
	K	eP		46	23.3			
	T	iP	03	51	27.7		0.17	16
		eX			37.0			
		eS		52	14.6			
	D	eP		51	35.9			
		eP			41.5			
	T	eP	11	06	14.5		0.17	2
		eS		07	56.2			
		eP		06	23.6			
	D	eS		08	09.8			
	T	eP	12	49	43.1			
		eS		51	25.4			
		eP		49	54.9			
SEP. 13	T	eP	21	57	41.5	"	0.5	12
		eP			42.5			
	K	eP	00	03	44.8			
		eP			56.0			
		eS		05	44.4			
	T	eP	07	51	01.0			
		eS		52	35.4			
	K	iP	15	23	11.2		0.17	20
		iP			24.7			
		iP			25.5			
	D	eS			56.1			
	T	iP	18	47	05.8	"		
		eP			12.3			
	D	eP	20	17	28.6	"		
		eX			40.5			
		ePcP?		18	02.0			
SEP. 14	T	ePcP?			03.0			
	T	iP	00	48	03.7			
		iS			53.3			
		eP			12.6			
	K	eP			13.2			
	D	eP	04	04	50.1			
		iP			55.8			
	K	eP		05	01.6			
	T	eP	05	05	54.6			
		eP		06	05.1			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
SEP. 14	D	iP	10 38			50.9
	T	iP	39			55.7
	D	eP	21 29			41.5
	T	eP				43.4
		eS	30			56.3
SEP. 15	K	iP	00 28			51.6
	T	iP				52.1
	D	iP	04 29			00.3
	K	iP	01 17			46.8
	T	iP				47.4
	D	iP				55.9
	K	iP	02 20			53.2
	T	iP				53.8
	D	eP	21			01.1
	K	iP	08 05			48.6
	D	iP				57.4
	T	iP				58.9
		eS	07			27.7
	D	eP	10 40			27.5
		eX				31.3
		ePcP	42			26.1
		eX				31.7
	T	iP	40		1.2	178
		iX				35.4
		ePcP	42			27.6
		eX				32.7
	K	eP	13 19			31.8
	T	eP				40.9
	D	eP			0.17	6
	K	iP	19 42			57.2
	T	iP				57.8
	D	eP	43			06.1
		eS				27.5
	K	eP	20 18			58.8
	T	eP	19			12.4
		eS				51.7
	D	eP				14.7

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP. 16	K	iP	02	14	40.4			
	T	iP			41.2		0.17	11
	D	eP			49.4			
	K	eP	02	32	22.9	"		
	D	eP			33.4		0.17	15
		eS		35	10.7			
	T	eP		32	34.9			
	D	eP	03	48	10.2	"		
	T	iP			22.0		0.5	25
	D	iP	04	12	23.0	"	Explosion?	
	T	iP			25.4		0.5	105
	K	iP			31.5			
	T	iP	08	38	41.7	"	1.1	138
		iX			52.6			
	D	iP			48.2			
	K	eP			49.6			
	K	eP	10	46	47.2	"		
	D	iP			55.3			
	T	eP			12.3		0.5	10
	D	iP	14	52	52.9			
		iS		53	05.1			
	T	iP			02.4			
	K	eP			12.1			
SEP. 17	D	iP	14	58	09.4			
		iS			22.1			
	T	iP			19.0		0.17	18
	K	eP			29.3			
	K	eP	19	21	02.5	"		
	T	iP			08.7		1.1	77
	D	iP			10.7			
	D	eP	01	08	10.0			
	K	eP			16.5			
	K	eP	01	11	03.2			
		eS		12	32.4			
	D	eP		11	16.0			
	K	eP	08	07	26.0			
	D	iP			32.6			
		eS		08	41.3			
	T	eP		07	34.9		0.17	4
	T	iP	09	12	20.8		0.17	9
		iS			51.2			
	D	iP			29.8			
	K	eP			34.7			
	K	iP	09	47	57.6			
	T	iP		48	09.5		0.5	30
	D	iP			12.7			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
SEP.17	K	eP	10 33 24.5			
	T	eP			0.17	11
	D	eP				
	K	iP	12 25 59.3			
	T	eP	26 01.7		0.17	15
	D	eP				
		eS	51.1			
	K	eP	17 08 06.1			
	T	eP			0.17	7
		eS	09 04.7			
	D	eP	08 22.2			
	T	iP	18 57 04.9		0.5	73
	D	iP				
	K	eP	20.9			
SEP.18	T	iP	01 53 14.8			
		eS	30.9			
	D	iP	24.3			
	K	eP	27.6			
	T	iP	02 03 42.9	"	0.5	65
		eX	54.2			
	D	iP	52.7			
		eS	06 12.0			
	K	eP	04 01.7			
	T	iP	07 47 57.1			
	K	eP	48 07.2			
	D	iP	08.4			
	K	eP	15 21 30.0			
	D	eP	35.1			
	T	eP	37.6		0.5	9
	K	eP	15 40 51.3	"		
	D	eP	58.4			
		eX	41 16.0			
		eX	52.4			
		eS?	47 24.0			
	T	iP	40 58.5		0.5	45
SEP.19	K	iP	17 49 28.7			
	T	iP	29.4		0.5	56
	D	iP	35.6			
	T	iP	22 41 35.5			
	K	iP	38.0			
	D	iP	42.7			
	T	iP	03 29 23.4			
	D	iP	33.8			
		eS	30 00.2			
	K	iP	29 35.3			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP.19	D	iP	05	47	11.6			
	T	iP			16.5			
	K	iP			18.4			
			11	37			0.17	18
	T	iP	08	09	27.3			
	D	iP			36.4			
	K	iP			39.4			
	T	iP	10	57	58.7			
	D	iP		58	07.2			
		iS		59	37.2			
	K	iP		58	12.2			
	D	eX	13	05	26.5			
		eX			53.2			
	T	eX			32.2			
		eX			54.2			
							0.17	5
	K	iP	13	47	14.0			
	D	iP			22.4			
		eS			46.6			
	T	iP			26.6		1.0	540
		eX			33.4			
	K	iP	14	01	01.7			
	D	iP			10.0			
		eS			33.1			
	T	eP			14.0		1.1	196
	D	eP	14	08	14.0	"		
	T	iP			14.4		0.9	31
	T	iP	15	16	18.1		0.17	3
		eS		17	30.9			
	K	eP		16	26.2			
	D	eP			27.2			
SEP.20	D	eP	17	22	37.6	"		
		eS?		25	53.5			
	T	eP	20	14	25.0		0.5	13
	D	eP			32.1			
	K	eP			40.9			
	D	iP	00	32	53.1			
	T	iP			58.6			
	T	iP	05	59	29.3		0.17	13
		iS	06	00	44.6			
	D	eP	05	59	38.7			
	T	eP	09	52	04.5	"	2.1	272
	D	eP			05.6			
		eX		53	41.0			
		ePP		55	38.2			
	T	eP	10	43	44.1	"		
	D	eP			45.9			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
SEP. 20	T	eX	10	48	063	"		
	D	eX			07.7			
	T	iP	11	32	22.1		0.17	18
		eX			24.4			
		eS		33	12.0			
	D	iP		32	29.4			
	K	eP			35.9			
	K	eP	12	05	05.3			
		eS		06	11.0			
	T	eP		05	17.5		0.17	3
	D	eP			19.1			
	K	iP	14	31	36.3			
		eS		32	38.8			
	D	eP		31	47.8			
	T	eP			49.1		0.17	3
	D	iP	15	09	19.5			
		eS			52.3			
	T	iP			23.8		0.17	30
	K	iP			29.9			
	D	eX	18	50	15.0	"?		
	T	eX			18.1			
SEP. 21	T	iP	19	38	23.0			
	K	eP			32.4			
	D	eP			34.2			
	K	iP	22	00	05.5			
	T	iP			05.8			
	D	iP			14.1			
	T	iP	04	25	24.6			
	K	iP			33.7			
	D	iP			35.3			
		eS		26	05.6			
	T	iP	13	42	51.9		0.5	13
		iS		44	00.8			
	D	eP		42	59.7			
	T	iP	15	49	20.4			
	D	iP			32.0			
	D	iP	17	32	54.6			
		iS		33	15.5			
	T	iP		32	59.4		0.5	75
	T	eP	20	13	00.9		0.17	5
		eS			54.8			
	D	eP			12.1			
	T	iP	20	55	46.7			
		eS		56	28.9			
	D	eP			49.2			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP.22	K	iP	01	03	51.9			
	T	iP		04	03.4		0.17	8
	D	iP			04.1			
SEP.22	T	iP	01	57	53.2			
	K	iP		58	03.2			
	D	iP			03.6			
		iS			22.6			
	D	iP	05	12	22.9	"	Explosion?	
	T	iP			24.8		0.5	96
	K	iP			31.0			
	T	iP	07	41	29.2			
	K	iP			39.3			
	D	iP			40.1			
		iS			59.4			
	T	iP	10	20	30.2			
	D	iP			40.1			
		iS		22	40.2			
	K	eP		20	42.4			
	T	eP	11	02	48.2			
	D	eP			59.4			
		eS		04	56.8			
	T	iP	11	21	53.8		0.5	26
		eX		22	03.8			
		iS		23	46.6			
	D	eP		22	02.6			
	K	eP			08.1			
	D	eP	13	32	56.5	"?		
		eX		33	52.2			
SEP.23	T	eP	22	07	42.3			
	D	eP			51.5			
		eS		09	51.7			
	T	iP	22	41	02.9			
		eS			44.9			
	D	iP			11.2			
	K	iP			17.5			
SEP.23	K	eP	07	06	48.9	"	1.0	70
	T	iP			52.8			
	D	iP			55.0			
	K	eP	10	06	19.4			
		eS		07	27.1			
	D	eP		06	22.8			
	K	eP	11	04	47.6			
	D	eP			51.3			
		eS		05	35.9			
	T	eP		04	53.9			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP.23	D	eP	20	06	48.0			
	T	eP		07	03.0			
		eS			26.7			
	K	eP			04.4			
SEP.24	K	eP	07	56	185	"		
	D	eP			26.5			
	T	eP			26.6		1.0	58
		eX			39.2			
	K	eP	11	59	51.8			
		eS	12	00	47.3			
	T	eP			05.3		0.5	8
	D	eP			06.0			
	K	iP	12	28	24.2			
		eS		29	20.2			
	T	eP		28	37.5			
	D	eP			38.7			
	D	eP	15	05	32.0	"?		
	K	eP			33.9			
	T	eP			37.0			
	K	eP	17	25	24.7			
	D	eP			29.6			
	T	eP			32.5		0.17	7
	D	eP	01	03	42.0	"		
	T	eP			47.2		0.5	7
	K	eP	20	19	37.1			
	T	iP			50.9		0.5	105
		eS		21	22.6			
	D	iP		19	50.8		0.17	14
SEP.25	K	eP	01	13	19.1			
	T	eP			31.1		0.5	13
	D	eP			31.7			
		eS		14	45.4			
	T	eP	06	27	12.3		0.17	15
		eS			33.1			
	D	eP			22.9			
	K	eP			23.6			
	K	eP	08	37	04.2			
	T	eP			15.8		0.17	4
	D	eP			18.5			
		eS		38	27.5			
	K	eP	09	15	39.8	"		
	D	eP			50.8			
		eS		19	16.3			
	T	eP		15	51.1		0.5	38
	T	eP	13	09	51.8	"		
	D	eP			45.7			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
SEP.25	T	iP	15	35	22.9			
		eX			32.4			
		eS		36	12.2			
	K	eP		35	36.5			
	D	eP			31.9			
	K	eP	17	10	34.2	"	12	01
		ePcP		13	06.5			
	D	eP		10	35.0			
		eX	17		49.8		15	200
		ePcP		13	08.5			
		eS		15	52.4			
		eScS		20	47.2			
	T	eP		10	36.8		0.5	23
		ePcP		13	08.6			
	K	eP	17	49	29.9			
	T	eP			43.2		0.5	25
		eS		50	48.8			
	D	eP	19	36	08.0	"		
		eS		39	23.2			
	T	eP		36	08.1		0.5	19
SEP.26	K	eP	19	45	07.2	"		
	T	iP			12.1		1.0	43
	D	eP			15.5			
	T	iP	19	53	12.9			
		eS			32.8			
	K	eP			19.8			
	D	eP			23.8			
	K	eP	02	37	14.3			
	T	eP			27.1		0.17	14
	D	eP			29.4			
	T	iP	06	50	12.3	"		
		eX			21.6			
		iS		52	30.9			
	D	iP		50	21.7			
	K	iP			26.0			
	T	iP	10	25	47.6			
	K	eP			56.5			
	D	iP			58.6			
		eS		26	22.0			
	T	ePKP?	11	31	15.8	"	1.0	22
		iX1			32.5			
	D	ePKP?			18.8			
		eX1		24	37.0			
		eX2		25	50.3			
	K	eP	13	02	26.2			
	T	eP			40.0			
	D	eP			41.1			

Date	Station	Phase	Time(G.M.T.)	"	T	Am
SEP.26	K	iP	14 53	27.7		
	T	iP		29.9		
	D	iP		38.7		
	D	eP	16 31	11.4	"	
		eX		42.2		
	T	eP		14.9	1.2	81
		eX		44.0		
	T	iP	17 14	07.0	"	1.3 200
		eX		13.8		
	D	iP		07.6		
		ePcP	15	46.8		
	K	iP	18 56	04.4		
	T	iP		06.6		
	D	eP		16.1		
	T	iP	19 51	38.2		
SEP.27	D	iP		43.3		
		iS		54.3		
	K	iP		43.8		
	T	iP	05 43	07.1	0.17	4
		iS		19.5		
	D	eP		43	145	
	T	iP	06 19	31.3		
	K	iP		40.6		
	D	iP		42.1		
	D	eP	08 11	44.0	"?	
	T	eP		46.6	0.5	8
	K	iP	12 32	07.1		
	T	iP		09.8		
	D	eP		18.7		
	T	iP	17 12	02.8	"	1.3 167
		eX		19.4		
	D	iP		12	07.7	
	D	iP	18 20	19.7		
		iS		33.7		
	T	iP		31.4		
	K	iP		38.8		
	T	iP	21 28	38.6		
	K	iP		39.0		
	D	eP		46.6		
	T	iP	23 24	59.3		
	D	iP		09.6		
		eS		37.8		
	K	eP		13.2		

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP.28	K	eP	03	07	07.4	"?		
	D	eP			09.0			
	T	eP			14.3			
	T	iP	03	07	44.0	"	1.1	91
		eX			58.3			
	D	eP			49.4			
		eX		08	04.1			
	K	eP	05	04	58.0	"		
	D	iP		05	03.1			
		eX1			13.8			
		eX2		06	50.1			
		ePcS		10	48.0			
		eS		11	36.5			
		eScS		15	10.5			
	T	eP		05	04.0		1.2	123
		eX2		06	51.2			
SEP.29	T	iP	05	35	59.8			
	D	iP		36	04.0			
		eS			18.5			
	K	iP			12.0		0.17	12
	T	iP	08	52	03.7		0.17	18
		eS			30.2			
	K	iP			09.9			
	D	iP			14.3			
	T	iP	15	53	57.7	"	1.6	330
		eX		54	16.4			
	D	eP			02.2			
		eX			19.4			
	K	eP	17	15	52.2			
	T	eP		16	02.4		0.17	5
	D	eP			02.7			
	K	eP	19	11	27.2	"?		
	D	eP			29.8		0.5	8
	T	eP			33.1			
	D	eP	19	42	39.6			
	K	eP			44.6			
	T	eP			50.7		0.5	15
		eX		43	03.0			
		eS		44	03.7			
	K	iP	21	00	53.5			
		eS		02	06.1			
	T	iP		01	06.5			
	D	eP			07.9			
	T	eX	23	14	30.4	"		
SEP.29	K	iP	14	33	42.2			
	T	iP			43.0			
	D	iP			51.3			
		eS		34	13.0			

Date	Station	Phase	Time(G.M.T.)			"	T	Am
SEP.29	D	eX	16	45	59.9	" ?		
	T	eX		46	05.9			
	K	eP	17	10	42.8			
		eS		11	23.6			
	T	eP		10	56.3			
	D	eP			57.0			
SEP.30	K	eP	07	59	53.0	"		
	D	eP			53.5			
		eX			59.2			
		eS	08	03	10.9			
	T	eP		00	01.6		0.5	15
		eX			07.0			
	D	eP	10	22	53.0	"		
	T	eP			53.6		0.5	9
		eX		23	05.1			
	K	eP	14	59	00.2			
		eS	15	00	08.9			
	D	iP	14	59	08.0			
	T	iP			10.1		0.17	12
	K	eP	15	26	33.4			
		eS		27	33.4			
	D	eP		26	42.8			
	T	eP			44.7			
	T	eP	19	25	27.6			
		eS		26	56.1			

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Preliminary Bulletin

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and its Substation

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Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : Am : Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.

T : Period in sec of the measured P maximum

" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 1	K	eP	01	58	45.7		
		eS	02	00	11.4		
	D	iP	01	58	52.8		
	T	eP			55.0	0.17	9
	T	iP	04	09	30.2		
	D	iP			37.8		
		iS			55.4		
	K	iP			39.9		
	T	eP	04	43	54.7		
	D	eP			59.2		
		eS		44	27.3		
	K	eP			10.0		
	T	eP	09	00	38.2	0.17	6
		eS		01	27.9		
	D	eP		00	47.1		
	K	eP	11	35	32.0		
	D	eP			36.6		
	T	eP			39.7		
		eS		36	26.8		
	T	iP	14	05	22.5		
		eS			40.3		
	K	iP			29.8		
	D	iP			33.9		
	T	iP	18	24	03.1		
	D	iP			08.3		
		iS			19.4		
	K	eP			13.5		
	K	iP	19	20	44.1		
	T	iP			54.3		
	D	iP			56.2		
		eS		21	10.6		
	K	iP	19	36	46.5		
	T	iP			47.5		
	D	eP			55.9		
OCT. 2	K	eP	00	22	55.3		
	T	iP			59.4	1.1	73
	D	eP		23	02.1		
		eX			12.4		
	K	iP	06	32	35.7		
		eS		33	04.8		
	D	eP		32	44.6		
	T	eP			45.7	0.17	44
	K	eP	06	47	01.5		
	D	eP			07.9		
	T	eP			10.5	0.17	4.1

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 2	T	iP	09	43	49.5		
	D	iP			52.3		
		eS		44	01.0		
	K	iP		43	59.0		
	D	eP	15	02	18.2		
		eX			24.8		
	T	eP			18.6	0.5	18.9
	D	eP	15	43	25.5		
	T	eP			32.2	0.5	8.5
	K	eP	18	05	36.7		
		eS		06	33.8		
	T	eP		05	50.1	0.17	7.3
	D	iP			51.4		
	K	iP	20	53	59.0		
	D	iP		54	00.7		
	T	iP			03.9		
OCT. 3	D	iP	02	37	06.7		
		eS			20.9		
	K	iP			09.8		
	T	iP			10.5		
	T	iP	11	26	40.0		
	K	eP			47.3		
	D	eP			51.2		
	D	iP	13	30	12.4		
	T	eP			17.2		
	K	iP			22.8		
		eS		31	21.0		
	K	eP	19	40	46.5		
OCT. 4	T	eP			59.7	0.17	3.3
		eS		42	32.7		
	D	eP		41	01.1		
	D	iP	01	12	30.3		
		iS			53.8		
	T	iP			51.8		
	K	eP		13	00.6		
	K	eP	03	59	15.8		
		eS		00	18.9		
	D	eP	03	59	18.9		
	T	eP			22.2	0.17	3.5
	D	eP	06	25	57.5	?	
	T	eP			59.0	0.5	10.2
	K	eP	07	48	31.8		
	T	eP			44.2	0.5	10.2
	D	eP			47.8		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 4	T T D						
	T	iP	08	18	4.12		
	D	iP			5.18		
		eS		19	17.4		
	K	iP		18	55.8		
	T	iP	09	57	55.6		
	D	iP		58	00.5		
		eS			11.6		
	K	iP			01.6		
	T	eP	11	24	36.7	0.17	2.8
		eS			43.6		
	D	eP			44.8		
	K	eP			50.0		
	K	iP	12	27	09.0		
	T	iP			13.6		
	D	iP			15.4		
		iS			28.1		
	T	iP	12	38	17.4	0.17	16.0
		eS		39	06.8		
	D	iP		38	25.9		
	K	eP			32.1		
	D	iP	16	32	01.0		
	K	iP			03.5		
		eS			46.6		
	T	iP			05.7	0.17	21.5
	D	iP	16	42	55.8		
		iS		43	08.8		
	T	iP			05.8		8.3
	K	iP			17.5	0.17	21.5
	T	eP	17	20	04.5		
		eS			30.8		
	D	eP			15.3		
	K	eP			16.5		
	K	eP	17	29	17.1		
	D	eP			20.7		
		eX			33.3		
		eScP		35	06.3		
		ePcS			09.6		
		eS			50.0		
		eScS		39	30.0		
	T	eP		29	22.7	1.4	23.1
		eS		35	51.5		
	K	eP	18	27	19.6		
	D	iP			31.0		
		eS		30	06.4		
	T	iP		27	31.3	0.5	41.1
		eS		30	07.5		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 4	D	iP	22	19	59.2		
	T	iP		20	10.9		
		iS			33.6		
	K	iP			18.3		
	T	iP	23	38	28.8	0.17	3.5
	D	iP			39.3		
		iS		39	35.5		
OCT. 5	D	eP	00	18	04.7		
	T	eP			08.7	0.17	4.9
		eS			42.5		
	K	eP			11.1		
OCT. 7	D	eP	07	05	44.2		
	T	eP			44.4	0.17	9.7
	T	iP	08	11	31.2		
		iS			53.6		
	D	iP			41.4		
	T	iP	08	21	38.4		
	D	iP			49.7		
		eS		22	09.2		
	D	iP	09	54	13.2		
	T	iP			17.3	0.17	10.25
		eS		55	11.8		
	T	eP	11	02	18.3		
		eS		03	35.7		
	T	iP	11	05	35.0		
	D	iP			44.7		
		eS			59.0		
	T	iP	11	45	24.1		
	D	iP			26.4		
		iS			35.4		
	T	iP	15	57	53.6	0.5	16.0
		eX		58	07.2		
		eS	16	00	05.3		
	D	eP	15	58	02.6		
		eX			15.3		
		eS	16	00	19.3		
	T	eP	17	03	54.4		
		eS		05	08.0		
OCT. 6	T	iP	00	19	23.6		
	D	iP			34.4		
	K	eP	07	47	09.4	?	
	D	eP			16.7		
	T	eP			17.7	1.1	7.13

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 6	T	iP	11	11	41.9	0.17	7.8
		eX			45.1		
		iS		13	47.3		
	D	iP		11	48.7	0.5	2.50
		eP			57.1		
	K	eP	17	27	05.5		
		eP			19.3		
		eP			20.1		
	K	eP	18	56	37.2		
		eP			47.6		
		eP			47.6		
		eS		57	22.2		
	T	eP	01	34	15.4	1.2	5.03
		eX			26.0		
		eP			16.8		
OCT. 7	D	eX			29.8	0.5	4.36
		iP	06	38	01.8		
		iP			06.7		
	T	iX			10.6		
		iS			34.5		
		eP	08	32	01.4		
	D	eS		35	01.6		
		eP			10.5		
	T	eP	09	10	52.7		
		eS		13	57.5		
		eP		11	02.9		
	K	iP	10	42	54.8		
		iP			59.2		
		iP		43	01.7		
	T	iP	10	56	39.1		
		iS			54.3		
		iP			48.2		
	K	eP			54.1		
		iP	14	04	46.6		
		iP			47.8		
	D	iP			51.9		
		eS		05	05.3		
	K	eP	14	41	40.0		
		eS		43	24.4		
		eP		41	52.8		
	T	eP			53.6	0.5	9.6
		eP					
		eP					
	T	eP	15	31	05.7	0.17	1.77
		eS		32	04.1		
		eP		31	15.1		
	K	eP			19.4		
		eP	20	06	49.6		
		eP		07	03.0		
	D	eP			04.7		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 8	T	iP	07	07	183		
	D	iP			216		
	K	iP			272		
	K	eP	17	07	523		
	D	eP			592		
		eX		08	160		
	T	eP			000	0.5	2 3.8
		eX			168		
	D	iP	17	37	268		
		iS			392		
	T	iP			368		
	K	iP			459		
	K	eP	18	16	105		
	T	eP			162		
	D	eP			163	0.5	50.2
		eX1			360		
		eScP		22	005		
		eS			392		
		eX2			468		
	K	iP	20	06	309		
OCT. 9		eS		07	407		
	T	eP		06	442		
	T	eP	21	13	141	0.5	15.5
		eS?		16	124		
	D	eP		13	252		
		eX1			332		
		eX2			511		
	K	eP	00	15	155		
	D	eP			250		
	T	eP			282		
	K	eP	02	50	516		
	T	iP		51	051	0.5	16.6
	D	iP			065		
OCT. 10	T	eP	03	04	107		
		eS		05	164		
	D	eP		04	214		
	T	iP	14	15	087	1.2	417.0
		eX			185		
	D	iP			136		
		eS		18	410		
	K	iP		15	193		
	D	eX	01	12	238	" ?	
	T	iP	06	47	163		
OCT. 10	D	iP			268		
		iS			465		
	K	iP			275		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 10	T	eP?	07	37	23.1	0.5	2.45
	D	eP?			33.8		
	K	eP	08	18	14.4		
	T	eP			25.1		
	D	eP			26.5		
	D	eX	09	44	20.3		
	T	iP	12	41	27.0		
		eS			46.7		
	D	iP			37.2		
	K	iP			40.5		
	T	eP	13	53	41.6	0.17	2.3
		eS		55	50.3		
	T	eP	13	53	55.6	0.17	5.3
		eS		54	34.6		
	K	iP	14	21	02.7		
		eS			53.4		
	D	eP			10.6		
	T	eP			12.2	0.17	3.3
	T	iP	16	26	46.8		
	D	iP			50.2		
		iS			59.6		
	K	iP			54.3		
	T	iP	18	55	27.4	0.17	5.5
		eS		56	12.9		
	K	eP		55	34.9		
	D	eP			38.8		
	K	eP	21	23	10.6		
		eS			10.7		
	D	eP			23.2		
	T	eP			24.3	0.5	10.5
	K	eP	22	20	18.9		
	T	eP			31.4		
	K	eP	23	16	13.2		
	D	iP			18.9		
	T	iP			21.1	0.17	10.4
OCT. 11	T	iP	06	14	34.5		
	D	eP			42.8		
		eS		15	22.7		
	K	eP		14	51.2		
	K	eP	11	05	43.5		
		eS		06	29.9		
	D	eP		05	49.7		
	T	eP			52.1	0.17	4.6

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 11	K	iP	15	53	3 10		
	T	iP			44.2		
		iX			54.8		
	D	iP			46.6		
		iS		54	54.6		
	K	iP	16	26	15.6		
		eS		27	13.6		
	T	iP		26	28.9	0.5	56.0
		eX			30.7		
	D	iP			31.1		
	K	iP	16	51	15.9		
	T	eP			29.9	0.5	7.1
	D	iP			30.8		
	K	eP	18	28	39.0		
	T	eP			52.8	0.5	7.4
	D	eP			53.8		
		eS		30	01.0		
	K	iP	18	30	53.2		
	T	eP		31	06.6	0.17	14.9
	D	iP			07.3		
		eS		32	14.3		
	T	eP	18	43	32.1	0.5	26.2
		eS		45	12.6		
	D	iP		43	42.6		
	K	eP			49.2		
	T	iP	18	57	59.4	0.17	8.1
		iS		58	30.4		
	D	eP			07.7		
	K	eP			15.0		
	T	eP	20	28	39.2		
		eS		30	19.0		
	T	eP	20	46	33.2	1.0	50.9
	K	eP			36.4		
	D	eP			36.6		
	D	iP	20	58	14.7		
		iS			28.6		
	T	eP			26.5	0.5	30.5
	K	eP			34.7		
	K	iP	21	50	52.2		
	T	iP		51	05.9	0.17	10.3
		eS			33.4		
	D	iP			06.5		
	T	iP	22	56	46.5	0.5	31.6
		iS		58	01.4		
	D	iP		56	56.2		
	K	eP		57	00.7		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 12	D	eP	03	53	04.1		
		eS		55	39.6		
	K	eP		53	09.2		
	K	iP	04	08	30.0		
	T	iP			32.2		
	D	iP			41.9		
	K	eP	05	14	22.2		
	D	eP			33.0		
	K	eP	06	45	06.7		
	T	eP			10.4	0.9	22.40
		iX			26.9		
	D	iP			12.6		
		eS?		48	04.0		
	D	iP	10	56	33.0		
		iS			45.6		
	K	iP			35.2		
	T	iP			37.2		
	T	iP	12	57	30.2	1.2	43.05
		eS	13	00	45.3		
	D	iP	12	57	35.2		
		eS	13	00	46.5		
		eScS?		08	10.0		
	K	eP	12	57	41.2		
	T	eP	16	11	26.6	0.17	2.0
	D	eP			36.1		
	K	eP			42.0		
	K	iP	18	39	35.6		
		eScP		45	07.5		
	D	iP		39	39.8		
		epP		40	04.4		
		iPcP		41	28.0		
		iScP		45	10.2		
		iPcS			20.6		
		eS		46	05.6		
		eScS		49	31.6		
	T	iP		39	42.0	1.7	6.235
		iPcP		41	28.2		
		iScP		45	11.1		
		iS		46	08.8		
	T	iP	20	19	03.8	0.17	3.7
		eS		20	26.5		
	D	eP		19	07.7		
	K	eP			16.3		
	K	eP	20	48	35.6		
	T	iP			38.5		
	D	iP			41.6		
	K	iP	21	00	39.5		
		iS		01	06.9		
	D	iP		00	47.8		
	T	iP			49.3	0.17	19.8

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 12	K	eP	22	07	56.4		
	T	eP		08	10.2	0.5	11.5
		eS		09	14.5		
	D	eP		08	10.4		
OCT. 13	K	iP	00	19	24.9		
	T	iP			28.7	0.5	36.0
		eS		20	25.9		
	T	eP	00	23	43.0	0.5	13.8
		eS		24	41.7		
	K	eP	01	37	29.7		
	D	eP			44.0		
	T	eP			44.2		
	K	eP	03	41	12.9		
	T	iP			22.4	0.5	6.7
		eS		42	26.5		
	D	iP		41	27.5		
	K	iP	08	13	09.4		
	D	iP			18.5		
	T	iP			22.5	1.0	28.6
		eS			47.9		
	T	iP	09	28	53.2	0.5	7.1
	D	iP		29	03.4		
		eS		30	11.2		
	K	eP		29	10.7		
	K	eP	09	59	59.5		
		eS	10	00	56.7		
	T	eP			12.3	0.17	1.2
	D	eP			13.5		
	K	iP	11	57	34.8		
		eS		58	14.0		
	T	eP		57	46.8	0.5	8.9
	D	eP			49.9		
	D	iP	16	03	22.9		
	T	iP			27.0	0.5	13.3
	K	iP			32.6		
		eS		04	31.6		
	K	eP	18	57	52.8		
	T	iP		58	06.7	0.17	1.4
	D	iP			07.1		
	K	iP	19	32	41.3		
	T	iP			53.8	0.5	11.1
	D	iP			56.2		
	D	iP	19	49	03.7		
	T	iP			13.2	1.0	38.9
		eS			35.5		
	K	iP			23.0		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 13	K	iP	20	16	3.49	0.5	1.04
	T	eP			4.76		
	D	iP			4.97		
		eS		17	5.27		
	D	iP	22	45	19.2		
		iS			32.4		
OCT. 14	T	iP			29.5	0.17	4.7
	K	iP			38.9		
	K	iP	00	08	2.67		
	T	iP			4.01		
	D	iP			4.09		
	D	iP	01	46	2.24		
		iS			35.5		
	T	iP			32.7		
	K	iP			4.15		
	T	iP	04	18	17.1		
	D	iP			21.4		
		eS			30.2		
	K	iP			25.8		
	K	eP	08	40	04.4		
		eS		41	14.3		
	T	eP		40	15.2		
	D	eP			15.3		
	T	eP	11	09	3.18		
	K	eP	12	14	16.6		
		eS		15	14.5		
	T	eP		14	29.7		
	D	eP			31.5		
	K	eP	13	01	27.6		
	T	eP			4.17		
	D	eP			4.25		
	K	iP	14	27	5.18		
	T	iP		28	05.4		
		eS		29	02.1		
	D	eP		28	06.5		
	K	iP	15	18	19.9		
		eS		19	16.0		
	D	eP		18	30.7		
	T	eP			31.5		
	K	eP	15	54	35.7		
	T	eP			48.6		
	D	eP			49.2		
	D	iP	17	29	58.5		
	T	iP		30	01.8		
		iS			20.6		
	K	iP			07.5		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
OCT. 15	T	eP	03	34	09.0	"	1.0	27.1
	D	eP			25.0			
	T	ePKP	08	19	14.4	"	1.2	173.3
	D	iPKP			17.5			
	K	iPKP			18.3			
	D	eP	08	29	48.8	"		
	T	eP			49.4			
	D	eP	09	03	51.5	" ?		
	D	eP	10	25	01.6			
	K	eP			01.6			
		eS			38.4			
	T	eP			05.7		0.17	4.1
	K	eP	14	30	32.6			
		eS		31	39.0			
	D	eP		30	40.1			
	T	eP			41.9		0.17	4.1
	K	eP	17	26	40.9			
	D	eP			47.2			
	T	eP			50.0		0.5	9.3
		eS		28	03.9			
OCT. 16	T	eP	17	51	57.3			
		eS		53	04.3			
	D	eP		52	03.3			
	K	eP			12.2			
	K	iP	21	30	57.3			
	D	eP		31	09.5			
	T	eP			10.2			
		eS		32	04.7			
	D	eP	23	14	25.0			
	T	eP			56.2			
		eS		16	29.1			
	T	iP	07	02	31.9			
	K	iP			40.4			
	D	iP			42.3			
		eS		03	02.6			
	T	iP	11	01	19.2			
	D	iP			20.3			
		eS			33.4			
	K	iP			21.8			
	K	eP	17	04	45.4	"		
	D	eP			49.1			
		eX1		05	30.6			
		ePcP		07	17.2			
		eS		10	16.5			
		eX2			51.6			
		eScS?		14	57.0			
	T	eP		04	52.3		0.5	12.9
		ePcP		07	17.8			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
OCT. 16	D	iP	17	27	00.4			
		eS			16.7			
	T	iP			04.6			
	K	iP			08.8			
	K	iP	17	53	52.7			
	T	iP			56.8			
	D	iP			57.1			
	D	eP	21	13	49.9	" ?		
	T	eP			52.9			
	D	eX	21	33	30.5	" ?		
	T	eP	23	08	04.6		0.17	4.9
		eS			52.8			
	D	eP			11.7			
	K	eP	23	20	36.3			
	D	eP			40.3			
	T	eP			43.8		0.17	4.3
		eS		21	35.1			
	K	eP	23	26	29.9			
		eS		27	52.8			
	D	eP		26	37.3			
	T	iP			40.8		0.5	15.1
OCT. 17	T	eP	23	33	35.4		0.5	9.8
		eX			40.0			
		iS		35	31.6			
	D	iP		33	45.1			
		eS		35	46.8			
	K	eP		33	47.2			
	K	eP	03	42	45.1			
	T	eP			59.3		0.5	10.0
	D	eP		43	00.1			
		eS		44	08.2			
	D	eP	05	12	20.8	" Explosion ?		
	T	iP			23.8		0.7	106.6
	K	iP			30.3			
	K	iP	07	05	45.3			
	T	eP			59.3			
	D	eP			59.9			
	T	iP	08	59	47.5			
	D	iP			52.4			
		eS	09	00	03.1			
	K	iP	08	59	53.4			
	K	eP	09	49	43.5			
	D	eP			55.8			
	T	eP			59.8		0.5	24.0

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 17	K	iP	13	38	013		
		eS			58.8		
	T	eP			14.8		
	D	eP			15.7		
	K	eP	13	51	28.1		
	D	eP			30.9		
	T	eP			34.4	0.5	22.7
	T	eP	14	08	16.8		
		eS		10	09.4		
	K	iP	14	18	58.3		
	T	iP		19	02.2	1.0	81.8
		eX			17.9		
	D	iP			04.4		
	T	iP	14	43	14.1		
	D	iP			24.1		
		eS			39.6		
	K	iP			26.0		
	D	eP	16	38	22.7		
	K	iP			22.8		
		eS			56.1		
	T	iP			26.9	0.17	6.7
OCT. 18	K	eP	18	54	43.1		
	T	iP			45.4	1.2	38.4
	D	eP			45.5		
	D	eP	21	10	36.8		
	T	eP			40.9	1.4	62.8
	T	iP	21	47	46.4		
		iS		48	07.3		
	D	iP		47	57.2		
	K	eP			59.4		
	T	eP	01	22	01.1	1.1	113.1
	D	eP			02.5		
		eX			13.1		
	K	eP			10.1		
	D	eP	01	11	31.2	" ?	
	K	eP			31.8		
	T	eP			33.1		
	T	iP	10	33	11.6	1.4	112.9
	D	iP			13.1		
	T	eP	10	51	45.3		
		eS		53	36.6		
	D	eP		51	58.3		
	T	eP	14	42	02.2	1.1	51.3
	D	eP			08.1		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 18	K	eP	16	02	59.6		
	T	eP		03	12.4	0.17	2.0
	D	eP			13.8		
		eS		04	22.9		
	T	iP	16	30	03.7	0.17	9.1
	K	iP			06.7		
	D	eP			15.5		
	K	eP	17	01	08.8	0.5	12.7
	T	eP			21.7		
	D	eP			24.1		
		eS		02	31.9		
	K	eP	17	09	21.1	0.17	1.7
	T	eP			34.7		
	D	eP			35.6		
	K	eP	17	53	18.7		
OCT. 19	D	iP			24.9		
	T	iP			27.4	0.17	7.3
		eS		54	39.4		
	T	iP	19	36	39.2	0.17	11.6
		eS		37	01.2		
	K	eP		36	48.5		
	D	eP			50.1		
	D	eP	22	18	28.5		
	D	iP	23	18	51.8		
	T	iP			56.2		
	K	eP		19	01.3		
		eS			44.3		
	K	eP	23	44	34.6		
	T	eP			40.4	0.17	17.7
	D	eP			41.8		
OCT. 19	D	iP	06	27	28.6		
		eS		28	36.2		
	T	iP		27	30.9	0.5	27.8
	T	eP	11	35	19.2	0.17	6.9
		eS			37.2		
	D	eP			22.7		
	D	eP	15	59	17.2	"?	
		eX			26.4		
	T	eP			17.4		
		eX			26.6		
OCT. 20	T	eP	16	23	58.3		
	D	eP			59.2		
	D	eP	01	22	38.2	"?	
		eX			48.3		
	T	eP	01	23	03.0		

Date	Station	Phase	Time (G. M. T.)			T	Am
OCT. 20	T	iP	02	13	37.7	0.17	2.3
		iS		14	44.5		
	D	eP		13	52.4		
	T	iP	07	07	11.8	0.5	14.2
	D	iP			18.8		
	D	eP	10	03	00.4		
	T	iP			01.6	0.17	4.8
		eS		04	37.4		
	T	eP	12	47	43.7		
	D	eP			45.8	0.5	10.0
		eS		48	50.8		
	D	eP	14	10	26.4		
	T	iP			29.5	0.5	10.9
	T	iP	14	26	43.6		
	D	iP			53.4		
OCT. 21		iS		27	20.8	0.5	14.0
	D	eP	15	33	21.8		
	T	eP			23.4		
	T	eP	16	06	44.3	1.1	85.0
	D	iP			46.2		
		eX			55.7		
	T	iP	02	10	51.3	1.4	118.0
	D	iP		11	02.0		
	T	iP	02	55	07.4		
		iX			21.7	Explosion?	10
	K	iP			08.7		
	D	iP			10.3		
		iX			24.5	10	118.0
	T	eP	05	09	27.2		
		ePcP		10	31.4	0.17	16.0
	D	iP	05	09	27.4		
		ePcP		10	32.3		
		ePP		11	32.0	0.17	9.4
	T	iP	06	00	06.8		
	D	iP			17.5	0.17	15.0
		eS			40.3		
	D	iP	10	03	25.0		
	T	iP			27.4	0.17	9.4
	D	iP	10	56	35.0		
	T	iP			39.0		
	T	iP	13	13	48.2	0.17	15.0
	D	iP			50.7		
		eS		14	11.8		

Date	Station	Phase	Time (G. M. T.)		"	T	Am
OCT. 21	T	eP	14	06	45.3		
	D	eP			57.2		
		eS		08	31.4		
	D	eP	17	06	58.6	"	
	T	eP			59.1	0.5	17.6
	T	eP	18	50	58.1	" ?	
	D	eP			59.5		
	D	eP	20	07	37.4	"	
		eX		10	39.5		
		eS			55.5		
	T	eP		07	37.0	0.5	16.4
	T	iP	23	50	08.8		
OCT. 22	D	iP			19.1		
	D	iS			40.5		
	D	eX	01	11	43.0	" ?	
	T	eX			52.8		
	D	eP	01	12	59.4	"	
	T	eP		13	01.4		
	K	eP	03	32	59.4		
	D	iP		33	03.4		
	T	iP			06.4	0.17	2.5
	D	iP	08	59	02.3		
		iS			17.6		
	T	iP			04.2		
	K	iP			11.4		
	T	iP	10	01	45.7		
	D	iP			55.7		
		eS		02	43.5		
	K	eP		01	57.7		
	K	eP	17	25	19.0	" ?	
	T	eP			30.0		
	D	eP			33.8		
	T	eP	19	09	49.2		
	D	iP			53.3		
	T	eP	19	34	27.3	0.17	2.9
		eS		35	48.8		
	D	eP		34	31.1		
	K	eP			40.1		
	T	eP	23	07	23.8	"	37.4
	D	eP			26.1		
	D	eX	23	57	18.4	" ?	

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 23	T	eP	02	55	38.0	0.5	19.8
	D	eP			47.4		
		eS		57	26.3		
	K	eP		55	52.1		
	T	iP	03	26	33.9		
	D	iP			44.3		
		eS		27	23.8		
	D	iP	08	28	52.9		
		iS		30	15.9		
	T	iP		28	54.7		
	D	eP	08	32	37.7		
	D	eP	09	45	09.8	?	
	T	eP			17.8		
	K	eP	11	03	18.6		
		eS		05	35.6		
	D	eP		03	31.1		
		eX			36.0		
	T	eP			31.6	0.5	14.9
	D	eP	12	23	39.9		
	T	eP			42.0	0.5	6.0
		eS		25	08.0		
OCT. 24	T	iP	22	27	54.2		
	D	iP		28	05.1		
	K	iP			07.3		
	T	eP	23	22	08.3	0.17	4.1
	D	iP			08.7		
		eS			40.2		
	D	eP	00	58	15.9		
		eS		01	32.0		
	T	eP	03	24	52.0	?	
	D	eP			53.2		
	D	iP	11	00	23.5	?	
	T	iP			27.3		
						1.0	18.8
	T	eP	11	03	39.2	0.17	4.7
		eS		05	03.5		
	D	iP		03	44.1		
	T	iP	14	37	42.5		
	D	iP			52.7		
		iS		38	18.1		
	T	iP	18	47	25.4		
	D	iP			35.6		
		iS		48	04.3		

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 24	T	eP	20	09	4 05	0.17	4.0
		eS		11	10.9		
	D	eP		09	4 13		
OCT. 25	D	eP	01	03	3 48	0.8	150.5
		epP			5 47		
		eS		07	09.2		
		ePcP?		08	04.0		
		eScP or eP		11	3 1.6		
		eScS or eS		15	16.2		
	T	eP		03	39.8		
	K	eP	01	56	10.3		
	T	eP			2 42		
	D	eP			2 48		
		eS		57	32.8		
	D	eP	02	01	4 03		
	T	eP			4 29		
	K	iP	02	27	12.5		
	D	iP			14.9		
	T	iP			18.5		
	T	iP	05	07	0 4.1		
	D	iP			1 49		
	T	iP	07	28	0 2.9		
	D	iP			1 30		
		eS		29	2 1.6		
	D	eP	08	58	5 4.9		
	T	eP			5 9.3		
	T	eP	09	19	1 9.0		
	D	eP			2 26		
	T	eP	10	52	0 3.7		
	D	iP	12	36	0 5.2		
	T	iP			16.4		
		eS			4 3.0		
	T	eP	12	46	12.5		
		eS		47	11.7		
	D	eP			2 3.4		
	T	eP	16	04	0 3.1		
		eS		05	29.5		
	D	eP		04	13.5		
	T	eP	16	46	10.4		
	D	eP			1 1.0		
	D	eP	18	46	3 0.0		
	T	eP			3 1.1		
		eS		47	39.5		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
OCT. 25	T	iP	20	11	07.4			
	D	iP			18.2			
		eS		12	03.5			
OCT. 26	D	eP	00	26	36.1	"		
		eS		30	04.2			
	T	eP		26	39.3		1.1	39.3
		eS		30	11.0			
	T	iP	05	25	16.2			
	D	iP			25.5			
		iS			51.8			
	T	eP	08	22	24.4		0.17	2.9
	D	eP			33.2			
	D	eP	09	36	28.9	"	0.5	7.6
	T	eP			32.8			
	D	eP	12	51	15.0	"		
	T	eP			21.6		0.5	7.1
	D	eP	17	29	21.3	"		
		ePP		31	15.0			
		ePPP			57.6			
		ePcS		35	10.8			
		eS			17.8			
		eScS		39	34.0			
	T	eP		29	24.7		1.0	23.9
	T	iP	18	55	21.5		0.17	7.9
		iS		56	18.7			
OCT. 27	D	iP	23	17	27.4	"		
		iX			53.8			
		eS		19	59.8			
	T	iP		17	27.8		0.5	40.3
		iX			29.9			
	T	iP	23	22	49.1		0.5	21.5
		iS		23	38.4			
	D	eP		22	59.4			
	T	eP	23	49	41.0		0.17	2.5
		eS		51	33.7			
	T	eP	04	02	20.2		0.17	2.5
		eS		03	28.5			
OCT. 27	T	iP	08	43	55.6			
	T	eP	09	22	13.7		0.17	5.3
		eS		23	16.6			
	T	iP	12	56	13.7		0.17	13.0
	T	iP	13	57	10.2		0.17	9.4
		eS			34.8			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
OCT. 27	T	iP	15	35	13.4			
	T	iP	20	33	16.2			
	T	eP	20	45	49.8	" ?		
OCT. 28	T	eP iS	03	39 41	56.3 06.0		0.17	5.3
	D T	iP iP	04	19	18.0 27.0			
	T	iP eS	09	41 42	48.1 47.2		0.5	12.5
	D T	iP iP eS	14	19	15.6 20.4 53.1			
	T	iP eX eS	17	22	30.5 40.1 19.7			
	D	eP		23 22	19.7 39.5			
	T	iP	02	17	31.0			
	D	eP eX	12	57	16.0 20.7			
	T	eP			16.3			
OCT. 29	T	iP	02	17	31.0			
	D	eP eX	12	57	16.0 20.7			
	T	eP			16.3			
OCT. 30	T	iP	00	11	09.5			
	D	iP			15.1			
	T	iP iS	03	04 05	35.5 30.5			
	D	iP			42.3			
	D	eP	06	12	22.3	Explosion ?		
	T	iP			23.7	0.5	70.1	
	T	eP	10	03	47.8		0.17	2.0
	T	iP	11	44	58.2			
	D	iP iS		45 46	07.5 06.3			
	T	eP eS	18	03 04	06.5 54.7			
	D	iP iS	21	01	32.6 40.2			
	T	iP			33.2			
OCT. 31	T	eP	00	53	37.4		0.17	8.4
	D	iP			46.4			
		eS		54	55.5			
	K	iP		53	51.7			

Date	Station	Phase	Time (G.M.T.)			T	Am
OCT. 31	T	iP	01	06	59.0	05	2 0.4
		iS		08	30.4		
	D	iP		07	03.5		
	K	eP			12.4		
	T	eP	10	25	27.0		
	D	eP			30.3		
	T	iP	10	44	22.7		
	D	iP			29.8		
		iS			40.1		
	K	iP			33.6		
	K	iP	13	13	04.2		
	D	iP			17.0		
		eS			35.0		
	T	iP			17.4	0.17	26.9
	T	iP	14	48	49.8	0.17	28.5
	D	eP			57.5		
		eS		50	01.2		
	K	iP		49	04.3		

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and its Substation

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Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

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Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : **Am :** Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.

T : Period in sec of the measured **P maximum**

" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time (G. M. T.)			"	T	Am
NOV. 1	T	iP	00	48	39.3			
	D	iP			51.3			
	K	iP	11	09	35.3			
	T	iP			41.1			
	D	iP			46.2			
	D	iP	11	43	40.1			
		iS			52.8			
	T	iP			50.0			
	K	eP		44	00.8			
	T	eP	16	12	55.4	"	0.5	15.1
	D	eP		13	05.5			
		eX1			10.8			
		eX2			14.2			
		eS		15	55.7			
	T	iP	16	34	36.8	"	0.5	10.2
		iX			44.3			
	D	eP			46.4			
		eX			52.3			
		es		37	48.6			
	T	eP	17	30	23.0	"	1.0	28.0
	D	eP			25.7			
	K	iP	18	55	50.9			
	T	iP		56	01.8			
	D	iP			03.9			
		iS			26.5			
	T	iP	19	04	35.0	"	1.3	112.8
	D	iP			35.6			
		eX		05	37.4			
		ePP?		06	38.6			
		eS		10	29.8			
	T	iP	19	17	45.7			
	D	iP			56.3			
		iS		18	20.8			
	K	iP		17	58.8			
	T	iP	20	04	34.5			
	D	iP			44.2			
		iS		05	06.3			
	T	iP	21	57	43.5		0.17	10.9
	D	eP			53.5			
		iS		59	07.4			
NOV. 2	D	iP	07	46	07.3			
		iS			14.8			
	T	iP			10.4			
	K	iP			16.5			
	T	eP	09	58	57.0		0.17	2.0

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 2	D	iP	13	42	58.1			
		eS		43	45.0			
	T	iP			02.4			
	K	iP			08.2			
NOV. 4	D	eP	05	11	30.2	"		
		eS		15	03.0			
	T	eP		11	30.5		0.5	8.4
	T	eP	09	07	48.3			
		eS		09	04.4			
	D	eP		07	56.2			
	D	eP	10	20	55.4			
	T	eP			57.8		0.17	2.6
	K	eP	10	27	02.3	"		
		eX			32.0			
	T	eP			06.5		0.9	527.2
	D	eP			09.9			
		eX			36.0			
		eS		35	17.4			
		eScS?		36	22.4			
	T	iP	10	27	54.4			
	D	iP		28	05.3			
	K	eP			07.5			
	T	iP	13	27	14.1			
	D	iP			24.7			
	K	iP			27.9			
	T	eP	14	32	28.1			
		iX			39.6			
	D	eP			36.2			
	K	eP			44.2			
	T	eP	14	41	43.1		0.5	6.7
	D	eP			53.0			
		eS		43	25.3			
	T	eP	14	47	53.5			
	D	eP		48	01.5			
		eS		49	34.8			
	K	eP		48	08.6			
	T	eP	15	13	44.8		0.5	3.5
		eS		15	11.5			
	D	eP		13	58.2			
	T	iP	16	05	20.4		0.5	2.25
		eS		06	49.9			
	D	eP		05	40.4			
	T	iP	16	45	51.2	"	1.5	258.8
		eX		49	08.4			
	D	iP		45	53.4			
		eX		46	21.6			
	K	eP		45	53.6			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 4	T	eP	18	56	129		Q17	3.9
		eS		57	326			
	D	eP		56	131			
NOV. 5	T	iP	00	00	545		Q17	22.4
	D	eP			582			
	K	iP	03	58	145			
	D	iP			169			
	T	iP			206			
	D	iP	07	24	512			
	T	iP			565			
	K	iP		25	012			
	K	eP	08	45	526			
	T	eP		46	045		Q5	29.3
		eS		47	110			
	K	eP	08	51	173			
	T	eP			255			
	T	eP	10	55	274			
	K	iP	11	58	470			
	T	iP			491			
	T	eP	13	10	067			
	T	eP	18	12	301			
		eS		13	388			
	T	iP	18	22	253			
		eS		23	053			
	T	iP	19	19	236			
	K	iP			242			
	T	iP	23	28	207		Q5	37.1
		eS		29	264			
	T	eP	23	31	510			
NOV. 6	D	eP	00	55	335			
		eS		56	393			
	T	eP	02	51	214	" ?	Q5	11.5
	T	iP	12	10	266			
	D	iP			349			
	K	eP			394			
	T	iP	18	47	032			
	D	iP			137			
	K	eP			174			
	T	eP	21	42	514	" ?		
	D	eP			544			

Date	Station	Phase	Time (G.M.T.)			T	Am
NOV. 6	D	iP	22	00	53.0		
	T	iP			56.2	Q17	5.3
NOV. 7	D	iP	01	11	20.2		
		iS			34.2		
	T	iP			32.0		
	K	eP			42.6		
	K	eP	04	00	07.8		
	T	eP			11.6	14	215.6
	D	eP			14.2		
		eX			26.0		
	D	eP	05	04	26.9		
		eS		05	48.0		
	T	eP	08	08	07.5		
	D	eP			08.5		
		eS		09	15.3		
	T	eP	10	10	57.6	05	4.5
	D	eP			58.2		
		eS		12	05.6		
	D	eP	10	29	24.9		
	T	iP			25.3		
	T	iP	11	00	03.9	Q17	4.8
	D	iP			14.1		
		iS		01	10.1		
	T	iP	13	04	46.0		
	D	iP			51.0		
	D	iP	16	47	38.1		
	T	iP			41.9	Q17	6.3
	T	iP	18	01	47.2	1.0	37.7
		iX			57.2		
	D	eP			47.9		
	T	iP	18	55	19.8		
	D	iP			30.5		
		iS			56.9		
	T	iP	19	42	52.1	Q17	3.6
	D	iP			53.9		
	T	eP	19	57	05.6		
		eS		58	04.0		
	D	eP		57	07.8		
	D	eP	20	06	33.6		
	T	iP			35.8	1.1	89.1
	T	iP	22	48	06.1		
		eS			58.7		
	D	iP			15.8		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 7	T	iP	23	28	38.9			
	D	iP			49.1			
NOV. 8	T	iP	01	56	30.6			
	D	iP			39.2			
	K	iP	03	31	17.6			
	T	iP			20.1			
	D	iP			28.8			
	D	eP	06	15	05.9	"		
		eX			19.8			
		ePcP?		17	05.0			
		epPcP?			23.7			
	T	iP		15	08.1		1.1	117.1
		eX			24.4			
		ePcP?		17	05.2			
	T	eP	13	13	23.2		0.17	12.9
	D	iP			24.2			
		eS		14	24.4			
	K	eP		13	35.3			
	T	iP	14	19	37.1			
	D	iP			41.0			
	K	iP			45.3			
	T	iP	14	44	23.2		0.5	104.0
	D	eP			31.9			
		eS		45	13.2			
	K	eP		44	39.9			
	T	eP	15	55	22.1		0.17	16.0
	T	eP	17	15	43.9	"	1.3	101.2
	D	eP			50.8			
	T	eP	17	28	52.8	"	1.1	76.8
		eX		29	04.7			
	D	eP		28	56.6			
NOV. 9	K	eP	02	26	12.1	"		
		ePcP		27	41.6			
		eS		32	11.2			
	D	iP		26	15.2			
		iPcP		27	43.0			
		iPcS		31	40.0			
		iS		32	12.0			
		eScS		35	09.6			
	T	iP		26	18.9		1.0	195
		iPcP		27	44.3			
		eS		32	20.1			
	T	eP	07	55	13.2	"	0.5	22.8
	D	eP			19.0			
	T	eP	13	16	16.4		0.17	10.4
		eS		17	07.3			
	D	eP		16	26.4			
		eS		17	25.3			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 9	T	iP	13	54	58.0			
	D	iP		55	09.2			
		eS			42.2			
	T	eP	15	05	32.9			
		eS			57.5			
	D	eP			35.0			
	D	iP	16	04	32.4			
		eS		05	04.7			
	T	iP		04	37.1			
	K	iP	18	19	46.1			
	T	iP			48.8			
	D	iP			52.2			
	T	iP	19	03	39.5			
	D	eP			40.2			
	D	eP	21	20	35.0			
	T	eP			42.9			
		eS		21	30.7			
	T	iP	22	44	12.5			
NOV. 10	K	iP	01	11	13.4			
	T	iP			15.5			
	D	iP	07	36	46.7	"	0.5	18.2
	T	iP			50.2			
	D	eP	10	28	46.9			
	T	eP			47.1		0.17	3.7
	K	eP	13	21	08.0	"		
	T	eP			12.6		1.1	82.9
	D	eP			15.0			
	K	eP	13	36	50.2			
	T	eP		37	02.6		0.17	2.9
		eS		38	07.5			
	D	eP		36	04.0			
	D	eP	18	50	23.2	"		
	T	eP			26.9		1.0	32.2
	K	eP	20	01	17.2	"		
	D	eP			21.1			
	T	iP			24.6		0.5	25.8
	T	iP	20	51	08.5	"	0.5	6.9
		iS		53	13.5			
	D	eP		51	18.3			
		eS		53	26.0			
	T	eP	20	56	58.7			
		eS		58	20.1			

Date	Station	Phase	Time (G.M.T.)			T	Am
NOV. 10	T	eP	22	28	43.3	0.17	18.4
	D	eP			52.0		
		eS		29	32.2		
NOV. 11	K	iP	00	23	23.0		
		eS		24	48.0		
	D	iP		23	29.8		
	T	iP			30.7		
	K	eP	05	50	16.6		
	D	eP			25.5		
	T	iP			26.1	0.5	12.0
	T	eP	07	14	25.0	0.17	4.1
		eS		15	35.1		
	D	eP		14	32.0	0.17	6.2
	T	eP	09	22	53.7		
		eS		24	23.7		
	D	eP		22	59.5	0.5	6.2
	K	eP	10	15	37.9		
	D	eP			48.1		
		eS		18	23.6	0.5	6.2
	T	eP		15	49.0		
	D	eP	12	07	40.1	1.3	60.8
		eX			48.0		
		eX		08	34.1		
	T	eP		07	43.7		
	K	eP			44.7		
	D	eP	12	26	43.3		
		eX			49.0	1.1	70.2
	K	eP			44.4		
	T	eP			46.1		
	T	eP	13	44	41.1		
	D	eP			42.9		
	D	eP	15	16	55.8		
	T	eP		17	01.5	1.2	45.9
	D	eP	18	11	47.2		
	T	eP			49.8		
	D	eP	20	29	58.1		
	T	eP		30	01.4	0.17	14.7
	K	iP	20	58	51.2		
	T	iP		59	04.5		
	D	iP			04.6	0.5	40.7
		iS			23.6		
NOV. 12	T	iP	02	29	57.2		
	D	iP		30	06.6		
		eS		32	12.8		
	D	iP	08	16	41.3		
	T	iP			46.0		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 12	T	iP	09	41	01.2			
	K	eP			10.2			
	D	iP			12.0			
		eS			37.1			
	T	iPKP?	10	48	01.9	"	1.0	96.0
		iX			12.0			
		iX			25.9			
	D	iPKP?			04.7			
		iX			14.3			
		eX			27.4			
	D	eP	14	52	27.6			
	T	eP			28.4		0.17	3.2
	K	eP	18	02	50.5			
	D	eP		03	02.3			
	T	eP			02.5		0.5	17.3
	D	iP	21	01	38.6			
	T	iP			39.8		0.17	13.1
		iS		03	21.3			
	T	iP	22	00	46.3			
	D	iP			49.4			
	K	eP	23	21	25.3	"		
	D	eP			28.8			
	T	iP			32.2		1.0	45.2
NOV. 13	T	iP	06	35	54.3			
	D	iP		36	04.5			
		eS			30.5			
	T	iP	10	30	25.3			
	D	iP			36.0			
	K	eP			37.5			
	K	iP	11	17	41.4			
	T	iP			49.3			
	D	iP			56.3			
	D	iP	14	43	02.1			
	T	iP			05.5		0.17	15.1
	D	iP	16	20	30.4	"		
	T	eP			35.0			
	D	eP	20	26	33.0			
	T	iP			36.8		0.17	13.2
	T	eP	21	59	27.3		0.17	3.3
	D	eP			29.5			
NOV. 14	K	eP	05	36	02.2	"		
	T	iP			09.4		1.5	24.0
	D	iP			10.0			

Date	Station	Phase	Time (G.M.T.)		"	T	Am
NOV. 14		ePP or PcP	38	01.2			
		ePPP		54.5			
		eScP	41	33.1			
		ePcS		54.2			
		eS	42	12.2			
		eScS	45	50.4			
	D	eP	07 48	27.2	" ?		
	T	iP	08 47	58.9			
	D	iP	48	10.0			
		eS		41.2			
	K	iP		10.5			
	K	iP	16 45	36.1			
	T	iP		43.1			
	D	iP		45.7			
	D	eP	18 45	35.6			
	T	eP		40.9		0.5	6.7
	D	eX	19 55	25.8	" ?		
	T	eP	21 17	59.4		0.5	10.2
		eS	19	08.8			
	D	eP	18	07.3			
	T	iP	23 27	42.8		0.17	4.6
	D	iP		47.3			
		eS	28	51.2			
NOV. 15	D	iP	06 22	33.4			
	T	iP		34.6			
	K	iP		38.8			
	D	iP	07 42	24.7	"		
		eS	47	03.0			
	T	eP	42	28.5		0.5	10.0
		eS	47	07.5			
	T	eP	09 59	27.8		0.17	8.4
	D	eP		37.2			
	D	iP	12 14	00.5			
	T	iP		10.6			
		iS		30.6			
	K	eP		23.2			
	D	eP	15 33	24.6	"		
		eX		33.9			
	K	eP	17 29	06.3	"		
	D	eP		07.8			
		eX		17.5			
	T	eP		13.0			
	T	eP	21 07	23.2			
		eS	08	55.2			

Date	Station	Phase	Time (G.M.T.)			"	T	Am	
NOV. 15	T	iPKP?	21	51	41.8	"	1.4	123.0	
		iX			48.2				
		iX			59.9				
	K	ePKP?			42.2				
		eX			49.7				
	D	ePKP?			43.4				
		iX			50.7				
		eX		52	04.3				
NOV. 16	K	iP	03	47	37.8				
	D	iP			44.7				
		eS		49	12.0				
	T	iP		47	46.6		0.5	36.7	
		iX		49	18.7				
	D	eP	10	04	20.9				
	T	eP			22.9				
	T	eP	16	41	10.8	"			
		eP			12.3				
	NOV. 17	T	iP	03	09	51.7			
		D	iP		10	02.0			
		iS			23.3				
K		eP			03.5				
D		iP	05	31	40.9	"			
		eX			48.8				
T		eP			42.4		1.2	37.0	
		eX			49.3				
D		eP	08	08	51.3	" ?			
T		eP	09	27	39.2	"			
		eP			45.3				
		eX		29	26.1				
T		iP	09	44	08.6				
D		iP			11.9				
K		iP			17.2				
T		eP	10	19	21.8	"	0.5	4.2	
		eP			23.9				
K	eP			26.4					
T	eP	12	39	08.3					
	eS		40	40.1					
	D	eP		39	17.7				
		eS		40	54.7				
NOV. 18	D	eP	12	46	49.1				
	T	eP			52.5		0.17	2.7	
		eS		48	04.7				
	T	iP	18	43	17.0				
		iP			23.0				
		iP			28.3				
	D								

Date	Station	Phase	Time (G.M.T.)	P	T	Am
NOV. 18	D	iP	19 00	323		
		iS		425		
	T	iP		333		
	K	iP		358		
	T	iP	20 42	459		
	D	iP		493		
	K	iP		540		
	T	eP	21 52	124	0.5	5.6
	D	iP		137		
	T	iP	22 08	368		
	K	eP		425		
	D	eP		475		
	D	eP	22 34	238		
	T	eP		248		
NOV. 19		eS?	39	090		
	D	eP?	22 39	050		
	T	iP	00 27	141		
	D	iP		243		
	T	iP	02 58	081		
		iS		278		
	K	eP		147		
	D	eP		194		
	T	iP	12 07	160		
	K	iP		256		
NOV. 20	D	iP		266		
	T	eP	17 40	026	1.8	106.8
	D	eP		050	1.8	
	T	eP	02 22	212	1.0	50.3
	D	eP		235		
	D	eP	05 39	005		
	T	eP	10 19	155	0.5	21.6
		eS	22	198		
	D	eP	19	210		
		eS	22	250		
	D	eP	10 22	346	"?	
	K	iP	10 49	198		
	D	iP		333		
		eS	50	204		
	T	iP	49	333		
	T	iP	12 06	306	0.17	15
		eS	07	302		
	D	eP	06	376		

Date	Station	Phase	Time (G.M.T.)			T	Am
NOV. 20	K	eP	13	40	16.6		
	D	iP			25.1		
	T	eP			25.3	1.1	110.9
	T	iP	15	23	14.8		
	D	iP			24.4		
	K	eP			29.1		
NOV. 21	K	eP	22	29	54.6		
	D	eP		30	08.2		
	T	eP			09.1	0.17	3.0
	T	iP	00	25	52.9		
	D	iP		26	01.9		
		iS			54.9		
	K	eP			06.4		
	K	eP	01	40	25.9		
	T	iP			38.7	0.17	10.5
	D	eP			40.8		
	T	eP	12	20	03.1		
	T	eP	17	13	12.2	1.1	54.1
NOV. 22	D	eP			12.6		
	D	eP	20	08	58.8		
	T	eP		09	02.6		
	T	eP	05	53	11.4	0.5	10.4
		eS		54	58.8		
	D	eP		53	20.9		
		eS		55	14.8		
	T	iP	06	42	26.6		
	D	iP			30.1		
	K	iP			35.6		
	T	eP	08	27	15.4		
		eS		29	25.2		
	D	eP		27	25.2		
	K	eP	09	36	25.3		
	D	eP			29.8		
	T	eP			29.8	0.5	5.8
	T	iP	15	21	12.6		
	D	iP			17.5		
	K	iP			18.7		
NOV. 23	T	eP	15	30	08.6	1.5	62.6
	D	eP			08.9		
	K	eP	22	11	43.9		
	D	eP			45.6		
	T	iP			48.7	0.5	20.9
	D	eP	04	38	51.8		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 23	D	eP	08	48	0 15	"		
		eX1			58.5			
		eX2		51	05.9			
	T	eP		48	04.0		14	188.9
		eX1		49	0 15			
	K	eP		48	04.9			
	T	eP	09	40	12.4			
		eS		42	06.1			
	D	eP		40	22.9			
	T	eP	12	10	39.3			
		eS		11	53.8			
	D	eP		10	48.3			
	T	eP	13	52	25.0	"	12	86.1
	D	eP			26.8			
	K	eP			30.5			
	D	iP	16	05	51.9			
	T	iP		06	03.9			
		iS			26.3			
	K	eP			13.8			
	D	iP	16	35	12.9		0.17	10.5
	T	iP			17.6			
	K	eP			22.5			
NOV. 24	T	eP	18	31	54.5			
		eS		34	04.9			
	D	iP	23	10	47.3			
		iS		11	00.8			
	T	iP		10	58.8			
	K	eP		11	09.7			
	T	eP	00	43	26.4			
	K	eP			36.0			
	D	eP			36.8			
	T	iP	03	26	51.0			
	K	iP			52.7			
	D	iP		27	0 12			
	K	iP	03	32	02.6		0.17	16.2
	T	iP			16.3			
	D	iP			16.4			
	K	eP	05	52	10.8	"		
	T	iP			16.1		1.0	31.4
	D	eP			18.4			
	T	iP	08	46	05.3			
	K	eP			07.2			
	D	eP			15.6			
	K	iP	12	59	32.8			
	D	iP			40.8		0.17	23.9
	T	iP			42.4			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 24	T	iP	13	17	3 15			
	K	eP			4 11			
	D	iP			42.1			
	D	eP	18	24	0 47			
	T	eP			0 9.6		0.17	18.7
	K	eP			15.2			
	D	eP	18	53	11.5	" ?		
	T	eP			16.8		0.5	8.4
		eS?		54	37.2			
	K	iP	19	46	52.7			
	D	iP			53.1			
		eS		47	38.1			
	T	iP		46	57.4		0.17	10.7
	T	iP	22	37	3 43			
	D	iP			3 9.3			
		iS			5 10			
	K	iP			44.1			
NOV. 25	K	eP	22	53	38.0			
	D	iP			44.0			
	T	iP			45.7		0.17	4.6
		eS		54	26.4			
	D	iP	02	45	2 9.8			
	T	iP			3 4.5		0.17	2 6.4
	K	eP			35.3			
	K	eP	13	29	14.0	"		
	D	eP			26.8			
		eS		31	58.4			
	T	eP		29	27.0		0.5	1 4.9
	K	eP	20	01	4 1.2			
	T	eP			5 4.4		0.5	6.2
	D	eP			55.5			
	D	eP	22	44	5 4.5	" ?		
	T	eP			59.6		0.5	7.1
NOV. 26	D	eP	00	10	4 5.2			
	K	eP			46.5			
	T	eP			52.9		0.5	42.2
	D	eX	00	20	3 1.6			
	K	eP	03	02	45.6	"		
	D	iP			48.0			
		eX		07	47.4			
		eS		09	45.1			
	T	iP		02	51.2		0.6	178.0
	T	eP	08	19	48.8	"	1.4	59.1
	D	eP			54.3			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 26	K	eP	11	00	48.8	"		
	D	eP			51.8			
		ePcP?		03	02.8			
	T	eP		00	55.6		0.5	20.7
		ePcP?		03	03.4			
	T	eP	11	36	35.9	" ?		
	D	eP			40.7			
	T	iP	18	53	19.3			
	K	iP			19.8			
	D	iP			27.6			
NOV. 27	T	iP	00	54	38.5		0.17	5.3
	D	iP			48.3			
	D	eP	04	36	32.8	" ?		
	D	eP	05	16	51.0	" ?		
	D	eP	05	32	59.0	"		
	T	eP		33	04.0			
	T	eP	08	30	03.6	"	1.3	113.4
	D	eP			06.0			
	T	eP	09	20	58.7	"	0.5	13.1
	D	eP		21	07.6			
	K	iP	10	15	52.2			
	D	iP			55.2			
	T	iP			58.7		0.17	17.3
	K	iP	10	33	37.2			
	T	iP			47.0			
	D	iP			48.3			
	K	eP	19	49	19.2			
	T	eP			32.5			
	D	eP			33.1			
	T	iP	21	04	29.1			
	D	iP			39.0			
NOV. 28		iS			54.6			
	K	iP			40.9			
	K	eP	21	09	13.0			
	T	iP			25.4		0.17	10.1
	D	eP			28.8			
	D	eP	21	48	44.3			
	K	eP			45.5			
	T	eP			53.6			
	T	eP	00	43	04.6			
		eS		44	22.2			
	D	eP		43	14.5			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 28	D	eP	02	38	49.1			
	K	eP			55.6			
	T	eP			58.2			
	K	iP	04	14	33.1			
	D	iP			38.1			
	T	iP			40.9		0.5	85.4
		es		15	48.4			
	D	eP	10	49	03.9			
	T	iP			09.2		0.17	3.6
	D	iP	13	56	15.6			
		iS			30.3			
	T	iP			27.5		0.5	28.5
	K	eP			35.1			
	K	eP	16	57	04.1			
	D	iP			07.1			
	T	iP			10.6		0.17	7.7
	T	eP	17	19	39.0		0.17	3.1
		eS		20	31.6			
	D	eP		19	49.5			
	D	eP	17	48	55.3			
	T	iP		49	00.3		0.17	10.5
NOV. 29	D	eP	18	26	15.2	"		
	T	eP	18	47	07.4		0.17	4.1
	D	eP			16.7			
	D	eP	22	17	41.7	" ?		
	T	iP	23	51	37.0		0.17	7.6
	D	iP			47.5			
		iS		53	06.9			
	K	iP	01	24	22.6			
	D	iP			30.2			
	T	iP			31.9		0.17	14.8
	K	iP	02	35	51.7			
	T	iP		36	05.1		0.17	20.5
	D	iP			06.1			
	D	eP	03	54	33.8	"		
	D	eP	04	15	23.9	" ?		
	T	iP	07	12	46.4		0.5	15.5
		eS		14	24.8			
	D	iP		12	55.4			
		eS		14	37.6			
	T	eP	07	25	12.8	"	0.5	7.3
	D	eP			18.6			
		eS?		28	01.8			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
NOV. 29	D	eP	16	14	44.6	" ?		
	D	eP	18	26	33.9			
	K	eP			39.3			
	T	eP			43.1		0.5	7.6
	T	iP	18	33	36.1			
	D	iP			46.6			
	K	eP			49.7			
	K	eP	19	52	04.4			
	D	eP			09.3			
	T	iP			12.2		0.17	8.1
NOV. 30	K	eP	01	36	02.3			
	D	eP			09.2			
	T	iP			11.0		0.17	6.9
	T	eP	03	34	02.0		0.17	18.7
	D	eP			02.2			
		eS		35	29.0			
	K	eP		34	13.8			
	D	iP	04	43	44.7			
	T	iP			48.7			
	K	iP			54.8			
	T	eP	07	36	21.5	"	1.4	340.0
		eX			44.1			
	D	eP			23.0			
	K	iP	15	57	32.0	"		
	T	iP			36.0		0.5	6.48
	D	iP			38.6			
	K	eP	17	30	29.1			
	D	eP			33.6			
	T	eP			36.4		0.17	4.0
	K	iP	19	33	55.8			
	T	iP			56.3			
	D	eP		34	05.4			
	T	eP	20	11	26.0		0.17	2.4
		eS		12	38.3			

7 MAY 1968

Preliminary Bulletin

of the Dodaira Micro-earthquake Observatory

and its Substation

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Dodaira Micro-earthquake Observatory

Earthquake Research Institute, the University of Tokyo

Preliminary Bulletin of the Dodaira Earthquake Observatory and its Substation

Observation stations

		N	E	h
Dodaira	(D or DDR)	35° 59' 54".0	139° 11' 36".2	800 m
Tsukuba	(T or TSK)	36° 12' 39".0	140° 6' 35".0	280 m
Kiyosumi	(K or KYS)	35° 11' 51".6	140° 8' 53".6	230 m
Shiroyama	(S)			
	(temporary)			

Expressions : **Am :** Amplitude in millimicron (peak to trough) of short period vertical P motion maximum within few cycles after the onset.

T : Period in sec of the measured **P maximum**

" : Teleseism

All stations are radio-telemetered to Tokyo giving record on multi-channel ink-recording oscillographs. The paper speed of the recorder is 1 mm per sec. For stronger events high speed recorder (10 mm/sec) is also triggered. The system are recorded in parallel on multi channel magnetic tape through a trigger system using an endless tape loop. Direct filter sum of short period seismometers at Dodaira and/or on line short period filter outputs of Tsukuba are also used for the detection of weak teleseismic signals.

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 1	K	eP	00	46	40.9		
	T	eP			55.2	0.17	7.7
	D	eP			56.3		
	T	iP	01	52	11.3		
	D	iP			12.9		
	K	iP			19.0		
	D	iP	04	27	46.5		
		iS			58.0		
	T	iP			56.0		
	K	eP		28	06.2		
	T	iP	04	44	12.4	0.17	6.4
	D	iP			22.9		
	D	eP	07	25	09.6	"?	
		eX			20.3		
	T	iP	08	00	26.8		
	D	iP			37.1		
	K	eP			40.5		
	K	eP	12	59	48.6		
DEC. 2	T	iP			53.1		
	D	eP	13	00	02.1		
	T	eP	14	00	49.0	1.2	219.0
	D	iP			57.0		
		eS		03	58.1		
		eScS		12	34.9		
	K	eP		01	02.2		
	D	iP	15	04	09.0		
	K	iP			11.8		
	T	iP			14.0		
	K	iP	18	42	42.0		
	D	iP			50.5		
	T	iP			53.6		
	T	ePKP?	00	44	22.7		
		eX			29.2		
	D	ePKP?			27.6		
		eX			34.6		
	T	iP	05	56	30.5		
DEC. 3	D	iP			40.2		
	K	iP			43.2		
	D	iP	08	20	09.6		
	T	iP			11.7		
	K	iP			15.9		
	T	eP	10	17	17.9	0.17	2.6
		eS		18	02.4		
	D	eP		17	28.3		
	T	iP	12	57	17.6	0.5	16.0
	D	eP			17.9		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 2	D	iP	17	13	29.7		
	T	iP			40.5		
	K	eP			50.7		
	D	eP	20	10	19.7		
	T	eP			25.7	1.1	63.9
	K	eP			28.4		
DEC. 3	K	eP	00	08	43.2		
	T	iP			57.5	0.17	6.0
	D	eP			59.5		
	T	iP	20	14	57.5		
	D	iP		15	08.3		
	K	eP			09.1		
DEC. 4	T	iP	21	11	52.3	0.17	2.4
	D	iS		12	57.2		
	K	eP			02.2		
	T	iP	09	15	26.8		
	D	iP			29.7		
	K	iS			37.1		
DEC. 5	K	iP			35.6		
	D	eP	11	56	29.7		
	T	iP			34.0	0.17	4.9
	T	iP	12	43	21.0		
	D	iP			26.7		
	K	iS			37.9		
	K	eP			31.7		
	K	eP	14	22	49.5		
	D	iP			58.7		
	K	eS		24	36.4		
	T	iP		22	59.3	0.5	6.7
	K	eP	17	30	54.2		
	D	iP			59.0		
	T	iP		31	02.0	0.17	4.5
	T	iP	17	55	22.0	0.17	4.3
	D	eP			30.2		
	D	eP	19	20	11.1		
	D	eP	20	20	06.4		
	T	iP	22	25	39.7	1.0	60.0
	D	iP			46.6		
	D	iP	22	34	52.6		
	T	iP			55.8		
	K	iP		35	01.9		
	T	iP	09	12	13.2	1.0	110.6
	D	ipP?			26.2		
	D	iP			20.0		
	D	ipP?			32.6		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 5	T	iP	17	43	02.6	0.17	4.3
		iS			46.0		
	D	eP			10.3		
	T	eP	18	48	15.3		
	D	iP	19	34	47.6		
	T	iP			52.0		
	K	eP			56.8		
	T	eP	21	19	21.0	"?	
	D	eP			29.6		
	K	iP	23	57	39.8		
	D	iP			48.2		
	T	iP			49.3		
DEC. 6	K	eP	01	26	13.0		
	D	iP			15.2		
	T	iP			18.5	0.17	13.0
	T	iP	01	40	04.7	0.17	4.1
	D	iP			14.6		
		iS		41	09.5		
	D	eP	03	08	20.7	"	
	T	eP			23.3	1.2	39.6
	K	eP	03	15	04.8	"	
	T	eP			09.5	1.2	41.2
	D	iP			11.0		
	K	eP	04	50	14.5	"	
	D	eP			15.2		
	T	eP			18.1	0.5	16.9
	K	eP	05	13	47.9	0.5	17.3
	T	eP			52.8		
	D	eP			55.6		
	T	iP	05	57	52.2	0.17	73.4
		iS		58	41.2		
	D	eP			00.3		
	K	iP	08	04	15.6		
	D	iP			24.7		
	T	iP			26.1		
		eS		06	58.0		
	K	eP	09	50	34.4	"	
	T	eP			40.6	1.5	112.0
	D	eP			41.9		
	T	iP	14	57	54.5		
	D	iP		58	02.8		
		eS		59	07.7		
	K	eP		58	08.4		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 6	T	iP	15	10	49.0	0.17	21.6
	D	iP			58.0		
		eS		12	01.2		
	K	eP		11	03.7		
	T	eP	19	53	13.9	0.17	3.2
	D	eP			23.1		
	K	iP	21	01	08.2	0.17	22.9
	T	iP			19.8		
	D	iP			20.2		
	T	eP	21	08	08.8		
DEC. 7	T	eP	21	11	00.4	0.17	140
		eS			58.5		
	D	eP			09.7		
	D	iP	21	28	11.1		
		eS			25.2		
	T	iP			15.2		
	K	iP			17.3		
	T	iP	06	46	50.2		
	K	iP		47	00.4		
	D	iP			01.0		
DEC. 7		iS			21.1		
	T	eP	07	32	04.5	1.2	93.0
	D	eP			11.4		
	T	iP	08	34	43.9		
	D	iP			55.0		
	K	eP			56.4		
	K	eP	09	59	01.4	1.6	87.0
	T	eP			07.4		
	D	eP			07.8		
		eX			45.0		
DEC. 7	T	eP	12	34	28.9	0.17	3.2
		eS		35	26.1		
	D	eP		34	38.7		
	T	eP	14	17	00.0	0.17	3.3
	D	eP			04.5		
	D	iP	14	26	35.9		
	K	eP			37.8		
	T	iP			40.1	0.17	2.7
	D	iP	17	08	32.7		
DEC. 7	K	eP			34.4		
	T	iP			37.3	0.17	5.4
DEC. 7	T	iP	23	32	45.3	0.17	44
		iS		33	21.0		
	D	iP		32	51.2		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 7	T	eP	23	56	16.8	0.17	4.3
		eS		57	27.8		
	D	eP		56	23.4		
DEC. 8	K	eP	02	09	22.2	12	77.5
	T	eP			29.0		
	D	iP			29.9		
	T	iP	04	13	54.2	0.17	4.0
		eS		15	02.6		
	D	eP		14	01.7		
	D	eP	06	12	20.4	Explosion? 0.5	69.0
	T	iP			22.2		
	K	iP			28.7		
	T	iP	12	47	24.8		
	D	iP			32.7		
	K	eP			39.9		
DEC. 9	T	iP	01	23	23.0	0.17	12.1
		iS			48.9		
	D	iP			33.6		
	D	iP	02	02	44.8	0.17	1.3
		iS		03	01.6		
	T	iP		02	53.7		
	K	eP		03	02.8	0.17	2.9
	T	iP	03	00	06.5		
		iS			41.9		
	D	eP			18.4	0.17	43.5
	K	eP	05	38	47.3		
	T	eP			51.4		
	D	eP			53.8	0.17	1.1
	T	eP	08	05	16.8		
	D	eP			18.0		
	T	iP	09	33	22.5	0.17	18.3
	D	iP			22.8		
		iS			36.7		
	K	iP			23.0	0.17	5.48
	T	eP	09	45	14.3		
	D	eP			18.8		
	D	eP	10	59	57.0	0.17	48.2
	T	eP			57.5		
	T	iP	13	32	59.1		
	D	iP		33	08.1	0.17	5.5
	K	eP			03.8		
	T	eP	17	52	24.2		
		eS		53	23.8	0.17	
	D	eP		52	34.2		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 9	T	iP	21	50	345	0.17	9.6
		eS		51	46.9		
	D	iP		50	43.8		
DEC. 10	K	iP	00	13	01.8		
	D	iP			02.3		
	T	iP			06.2		
	T	iP	03	23	40.0		
	D	iP			48.7		
		iS		24	18.7		
	K	eP		23	54.4		
	D	iP	05	05	36.1		
	T	iP			40.8	0.17	8.0
	K	eP			42.0		
	T	eP	05	08	05.5		
	T	eP	12	18	11.0	1.4	54.2
		eX			42.5		
	D	eP			15.4		
	T	iP	17	47	28.1	0.17	11.3
	D	eP			38.7		
	K	eP			39.9		
	D	eP	18	51	02.1	?	
	T	eP			04.8		
	K	iP	19	35	18.4		
	T	eP			30.5	0.17	15.0
	D	iP			33.5		
		eS		36	25.6		
	T	iP	22	41	53.6		
	K	eP		42	03.4		
	D	iP			03.6		
	D	eP	23	01	31.2	1.1	18.95
	T	eP			34.8		
		eX			58.1		
	K	eP			35.1		
	K	iP	23	08	12.0		
	T	iP			23.0	0.17	19.8
	D	iP			27.3		
DEC. 11	D	iP	07	34	43.8		
		iS			57.1		
	T	iP			55.5	0.17	21.4
	K	eP		35	03.2		
	D	iP	11	19	33.2		
		iS			46.2		
	T	iP			33.6		
	K	iP			39.9		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 11	K	eP	12	15	52.5		
	T	eP		16	04.7	0.17	4.9
	D	eP			04.9		
	K	eP	19	52	06.5		
	T	iP			10.9	1.4	98.5
		iX1			20.4		
		eX2			38.6		
	D	eP			13.9		
		eX1			22.8		
		eX2			40.6		
	D	eP	20	00	52.6	"?	
	D	eP	21	00	01.0		
DEC. 12	T	eP			05.1	0.5	9.8
	K	eP			06.0		
	D	iP	21	17	55.3		
	T	iP		18	06.3		
	K	iP			15.7		
	D	iP	22	42	27.7		
	T	eP			30.2	1.4	80.0
	K	eP			32.6		
	K	iP	04	09	19.5		
	T	iP			32.8	0.17	7.3
	D	iP			33.3		
	D	eP	04	32	36.2	"?	
					6.		
	D	iP	05	14	03.6		
		iS			18.0		
	K	iP			10.2		
	T	iP			14.0		
	T	eP	06	28	49.7		
	D	eP			50.4	1.1	69.8
	D	iP	06	37	47.8		
	T	iP			59.8		
	K	eP	12	44	58.7		
	D	eP		45	04.7		
		eS		46	14.8		
	T	iP		45	06.9	0.17	3.9
	T	eP	15	59	07.3		
	D	eP			08.4	1.2	43.9
	K	eP			08.7		
	D	iP	20	45	07.0		
	T	iP			19.0		
	K	eP			26.7		
	T	iP	22	46	14.4		
	D	iP			21.6		
		iS			40.8		
	K	eP			34.4		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC-12	T	iP	23	25	35.1		
	D	iP			39.3		
	K	iP			43.4		
DEC-13	T	iP	09	01	49.9		
	D	iP			59.1		
		iS?		03	01.9		
	K	iP		02	03.4		
	T	iP	09	53	27.0		
	D	iP			29.6		
		iS			37.6		
	K	iP			36.3		
	T	eP	10	41	45.4	1.1	183.9
		iX			50.6		
	D	eP			54.5		
		eS		44	34.4		
		eScS?		53	49.4		
	K	eP		42	02.0		
	T	eP	11	02	07.8	1.0	34.3
		iX			09.9		
	D	eP			19.4		
		eS		05	18.3		
	K	eP		02	21.3		
	D	iP	11	20	51.6		
	T	iP		21	01.4		
	K	eP			12.7		
	T	eP	15	42	26.9		
		eX		45	10.5		
	T	iP	17	50	30.5	0.5	22.9
	D	iP			36.4		
		eS		52	44.5		
	K	eP			43.7		
	K	iP	19	17	20.9		
	T	iP			26.7	1.2	137.6
	D	iP			28.2		
		iX			45.0		
	K	eP	20	55	12.0	"?	
	D	eP			19.4		
	T	eP			19.6	0.5	11.3
	K	eP	21	45	03.7	"?	
	T	eP			07.8	1.0	28.6
	D	eP			10.4		
	T	eP	22	28	43.9	0.17	4.3
	D	eP			53.2		
	K	eP	22	38	24.8	0.17	2.9
	T	eP			38.9		
	D	eP			39.4		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 14	D	eP	02	32	26.6		
	T	eP			30.6	1.0	21.7
	K	iP	04	58	01.3		
	D	iP			01.8		
		eS			40.8		
	T	iP			05.7	0.17	16.1
	T	eP	05	49	27.5	0.17	1.9
		eS		51	07.7		
	D	eP		49	37.7		
	T	iP	08	35	48.9	0.17	7.9
	D	iP			59.0		
		eS		36	57.5		
	T	eP	09	06	33.0	0.17	3.5
	D	eP			43.4		
		eS		08	15.5		
	T	eP	11	37	21.8	0.17	2.1
	D	eP			26.8		
	T	eX	14	28	54.4	" ?	
	T	iP	16	08	05.0		
		eX			14.4		
		eS			59.0		
	D	iP			13.3		
	K	eP			19.4		
	T	eP	18	30	21.1	"	1.0 125.7
		eS?		34	29.4		
	D	eP		30	27.3		
		eX			33.9		
		eS?		34	39.6		
	K	eP		30	31.2		
	D	eP	20	05	36.5		
	T	eP			40.8	0.17	14.3
	K	eP			46.2		
	K	iP	23	23	31.6		
	D	iP			33.4		
	T	iP			37.8	0.17	16.5
	K	eP	23	34	12.1	" ?	
	D	iP			19.8		
	T	iP			20.6	0.5	10.4
DEC. 15	K	eP	08	53	48.7		
	D	iP			57.0		
	T	iP			58.7	0.17	12.6
		eS		54	41.8		
	T	eP	12	40	52.0		
	T	eP	17	49	19.2	0.17	16.7
		eS		50	25.0		
	D	eP		49	30.6		

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 15	K	eP	19	58	52.3		
	T	eP			56.8		
	D	iP			58.8	1.2	55.3
	K	eP	22	41	45.5		
	D	eP			53.6		
	T	iP			55.2	0.17	3.1
DEC. 16	K	eP	03	07	07.0		
	T	eP			20.7		
	D	iP			20.8		
	D	eP	06	13	54.4		
	T	iP		14	04.1		
	K	eP			14.4		
	D	iP	15	50	18.6		
	T	iP			30.9	0.17	148
		iS			56.2		
	K	eP			33.9		
	T	iP	17	07	28.1		
		eS		09	09.6		
	D	eP		07	37.4		
	T	eP	17	26	14.5	0.5	6.0
	D	eP			24.5		
		eS		28	06.1		
	T	iP	19	44	29.2		
	K	iP			29.6		
	D	iP			37.4		
		eS			58.4		
	T	iP	20	02	39.5		
	K	iP			39.7		
	D	iP			47.5		
	T	iP	20	58	27.1		
	D	iP			34.8		
		eS	21	02	18.8		
	K	eP			39.1		
	D	eP	21	34	29.5		
		eS		36	05.7		
	T	eP		34	30.9		
	T	iP	22	40	15.9		
	K	iP			16.3		
	D	eP			24.8		
DEC. 17	T	iP	04	56	54.3		
	D	iP			56.4		
		iS		57	08.9		
	K	iP			57.5		
	D	iP	10	28	06.9		
	T	iP			08.7		
	K	eP			24.6		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
DEC. 17	K	iP	11	20	25.8			
	D	iP			30.4			
	T	iP			31.6			
		eS			52.9			
	T	eP	14	02	43.6		0.17	4.4
	D	eP			51.2			
		eS		03	35.0			
	D	eP	20	47	51.8	"		
	K	eP			55.0			
	T	eP		48	01.0		0.5	8.5
DEC. 18	T	iP	23	28	45.8		0.17	10.3
	D	eP	00	13	04.6			
	T	iP			07.8		0.17	8.8
	K	eP			13.1			
	K	eP	10	27	02.6	"		
	T	iP			09.5		1.4	19.20
	D	eP			10.1			
	T	eP	10	35	41.2	"	1.2	35.9
	D	eP			41.9			
	K	eP	14	09	29.0	"		
DEC. 19	T	iP			37.4		1.2	21.45
		iX			43.8			
	D	eP			37.8			
	T	eP	14	18	47.7	"	1.2	37.9
	T	iP	19	14	27.4		0.17	8.3
		iS		15	50.3			
	K	eP		14	43.9			
	T	eP	05	30	34.3		0.17	26.7
		eS		32	00.5			
	K	eP	05	57	15.2			
DEC. 20	D	eP			24.0			
	T	eP			24.5		0.17	4.3
	T	iP	14	47	21.1	"	1.0	42.8
	D	eP			27.8			
	K	eP			29.0			
	T	eP	22	24	57.9		0.17	4.9
		eS		26	08.1			
	D	eP		25	08.4			
	T	eP	23	24	25.3		0.17	2.7
		eS			25.4			
DEC. 20	T	iP	05	47	32.3		0.17	16.5
	D	iP			41.2			
		iS		49	18.0			
	K	eP		47	45.1			

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 20	D	eP	09	40	53.2		
	T	eP			55.2		
		eS		42	30.0		
	D	eP	11	43	01.0		
		eX		44	29.5		
	K	eP		43	05.2		
		eX		44	31.1		
	T	eP		43	05.5	1.0	29.7
		eX		44	31.5		
	T	iP	13	48	29.1		
	K	eP			39.3		
	D	iP			39.9		
		eS		49	08.8		
	K	eP	16	39	23.7	"?	
	D	eP			33.7		
	T	eP			34.7	0.17	2.4
		eS?		42	15.8		
	K	eP	17	17	17.5	"?	
	T	eP			23.5		
	D	eP			24.8	0.5	7.1
	K	eP	22	16	16.3		
	D	eP			23.4		
	T	eP			25.4	0.17	4.4
		eS		17	39.5		
	T	eP	23	01	55.8		
	D	iP		02	06.8		
		eS			32.6		
	K	eP			09.7		
DEC. 21	D	iP	01	01	08.5		
		iS			22.1		
	T	iP			12.4		
	K	iP			14.5		
	T	ePKP	02	45	10.2	"	1.8 353.0
		eX			25.8		
	K	ePKP			12.0		
		eX			27.7		
	D	ePKP			13.6		
		eX			30.1		
	T	eP	08	14	55.5	0.17	5.2
		eS		16	09.7		
	D	eP		15	05.9		
	K	eP	11	52	27.4	"?	
	T	eP			31.4	0.5	8.9
	K	eP	14	21	14.7		
	T	iP			27.6	0.17	2.7
	D	eP			31.0		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
DEC. 21	T	eP	16	07	19.8	"	0.5	9.8
		eS		10	18.8			
	D	eP		07	30.7			
		eS		10	36.8			
	D	eP	16	12	58.9			
	T	eP			59.2		0.17	2.1
	T	eP	16	16	29.0	"	0.5	5.6
		eS		19	28.0			
	D	eP		16	40.5			
		eS		19	45.6			
	T	eP	16	20	39.9	"	0.5	7.6
		eS		23	38.3			
	D	eP		20	50.8			
	K	eP	18	36	56.1			
	D	eP		37	04.1			
		eS		38	14.3			
	T	eP		37	05.3		0.17	6.7
	T	iP	19	30	39.1		0.17	5.9
DEC. 22		iS		31	06.5			
	K	eP		30	44.5			
	D	eP			50.3			
	K	eP	20	06	38.5			
	D	eP			46.3			
		eS			58.7			
	T	iP			47.7		0.17	2.5
	K	iP	21	32	28.9			
	T	iP			30.1		0.17	8.1
	D	eP			41.8			
		eS		33	14.5			
	T	iP	03	36	44.4			
	D	iP			49.7			
	T	eP	04	27	45.4		0.17	2.3
	D	eP			55.2			
	D	eP	06	50	04.5			
		iS			37.5			
	T	iP			09.5		0.17	17.0
	T	iP	10	18	21.6			
	D	iP			29.0			
	K	iP			29.8			
	D	iP	11	10	50.8			
	T	iP			52.6			
	K	eP		11	08.5			
	T	eP	12	52	02.7	"	1.2	53.3
	D	eP			05.0			
	T	eP	17	19	18.1			
		eS		20	40.3			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
DEC. 22	D	eP	23	20	52.2	"		
	T	eP			52.7		0.5	6.2
DEC. 23	D	iP	00	30	51.2			
	T	iP			56.1		0.17	11.3
	D	eP	10	27	05.9			
	T	iP			07.6		0.17	4.9
		eS			24.6			
DEC. 23	K	eP	13	31	01.4	"		
	T	eP			06.5		0.5	11.8
	D	iP			07.5			
	K	iP	15	03	31.6			
	D	iP			33.6			
	T	iP			37.6			
		eS		04	23.4			
	T	eP	16	08	41.5	"	0.5	6.9
	D	eP			48.9			
	T	eX	16	11	31.7	"		
	D	eP	17	20	11.7	"		
	T	eP			14.5		1.4	9.23
		eX		27	00.3			
	D	iP	22	26	26.1			
		iS			40.0			
	K	iP			46.6			
DEC. 24	D	iP	02	10	00.5			
		iS			20.3			
	K	iP			10.5			
	K	eP	02	35	18.6	"		
	D	eP			25.9			
	K	iP	07	18	44.3			
	D	iP			46.7			
		iS			59.6			
	D	eX	08	38	29.4	"		
	K	iP	14	30	08.0			
	D	iP			16.8			
	K	eP	15	00	00.8			
	D	eP			09.2			
	K	eP	15	08	00.8			
	D	eP			15.3			
	K	eP	20	06	17.0	"		
	D	eP			24.8			
	D	eP	20	22	11.8	"		
		eX		23	47.8			

Date	Station	Phase	Time (G.M.T.)			"	T	Am
DEC-24	K	eP	21	47	22.5			
		eS		49	01.0			
	D	eP		47	34.5			
	D	eP	21	51	30.9	" ?		
	K	iP	23	12	10.8			
DEC-25		iX			18.1			
		eS		13	16.5			
	D	eP	00	00	01.9	" ?		
	K	eP	01	31	23.2	"		
		eS			46.7			
	D	eP			29.2			
		ePcP?		33	24.3			
		eS		37	51.7			
		eSdS		41	30.4			
	K	eP		09	44.0			
	D	eP			54.4			
	T	eP			55.5			
	T	ePKP	11	01	14.1	"	1.5	80.0
		eX1			17.7			
		eX2			24.4			
	D	ePKP			16.3			
		eX1			20.1			
		eX2			26.6			
	K	eX1			19.1			
	K	eP	12	17	20.9	"		
	D	eP			27.0			
		eS?		23	43.0			
	T	eP		17	29.7		0.5	10.9
DEC-26	D	eP	15	12	58.1			
	K	eP		13	00.8			
	T	iP			03.3		0.17	5.5
	K	eP	19	28	25.2			
	T	eP			38.4		0.17	2.7
	D	eP			40.8			
	T	eP	23	00	58.7			
		eS		01	06.7			
	K	iP	00	30	35.7			
	D	iP			45.7			
	T	eP			46.3		0.17	15.9
	T	eP	01	07	55.7			
		eS		09	12.5			
	K	eP	09	00	33.8	"		
	D	eP			37.2			
	T	eP			38.9		1.4	50.5

Date	Station	Phase	Time	(G.M.T.)	T	Am
DEC. 26	K	iP	11	44	28.6	
	D	iP			36.8	
	T	iP			38.5	0.17 10.6
		eX			45.5	
		eS		45	39.0	
	D	iP	11	58	28.5	
	T	iP			33.1	
	K	eP			50.3	
	T	iP	13	29	45.5	0.17 5.5
		eS		30	58.3	
	D	eP		29	54.6	
	T	eP	13	48	27.5	
		eS		49	18.1	
	D	eP	14	46	28.2	
	T	eP	19	05	36.5	
		eS		07	49.5	
	D	eP	22	28	40.3	
	T	eP			42.7	0.17 3.6
DEC. 27	K	iP	01	51	05.5	
	T	iP			11.7	0.5 20.0
	D	iP			11.9	
	D	eP	04	36	08.8	"?
	T	iPKP	09	37	28.9	" 2.2 73.3.0
		iX1			34.5	
		ePP		41	10.7	
	D	iPKP		37	30.4	
		iX1			36.4	
		eX2			53.2	
		eX3		38	26.1	
		ePP		41	16.4	
	K	ePKP		37	31.2	
		eX1			36.2	
	T	iP	09	48	25.7	0.17 2.0
		eS		49	15.7	
	D	eP		48	34.8	
	T	eP	14	09	28.9	
		eS		10	48.1	
	K	eP	14	46	28.9	
	D	eP			36.1	
		eX			45.8	
	T	eP			44.8	1.2 48.2
	K	iP	16	34	08.1	
	T	eP			13.0	1.0 340.0
		eX			32.8	
	D	eP			15.9	
		eX			34.8	

Date	Station	Phase	Time (G.M.T.)			T	Am
DEC. 28	K	eP	04	06	12.6		
	D	iP			20.9		
	T	iP			22.8	0.17	6.1
	D	iP	05	03	07.4		
	K	eP			07.9		
	T	iP			11.7		
	T	iP	05	29	57.2		
	D	eP		30	06.3		
	K	eP			11.3		
	T	iP	05	40	02.2		
	D	iP			03.5		
	K	eP			09.7		
	D	iP	09	58	34.1		
	K	iP			34.9		
	T	iP			35.1		
DEC. 29	T	iP	16	18	07.7		
	K	iP			08.1		
	D	eP			17.1		
	T	iP	19	02	42.0		
	K	iP			43.2		
	D	iP			51.5		
	T	eP	01	10	38.5	0.17	23
	D	iP	06	30	25.6		
	K	eP			35.3		
	T	eP			37.4		
	T	eP	12	41	55.0	0.5	6.9
	T	eP	18	43	48.9	0.17	3.5
		eS		45	09.1		
	D	eP		43	54.0		
	T	iP	19	52	49.0		
DEC. 30	D	iP			58.9		
	K	eP		53	00.8		
	K	eP	20	40	52.9		
	T	eP			57.8	1.0	148.9
	D	iP			58.8		
	D	eP	00	14	01.6		
	T	eP			05.2	0.5	9.3
	T	iP	02	28	30.7		
	D	iP			40.8		
		iS		29	17.5		
	K	iP		28	44.1		
	D	eP	04	32	05.9	0.9	23.2
	T	iP			06.7		

Date	Station	Phase	Time (G.M.T.)			"	T	Am
DEC. 30	T	eP	05	24	07.5			
		eS			57.0			
	D	eP			15.9			
	K	iP	07	23	52.8			
	T	iP		24	05.5			
	D	iP			06.3			
	T	iP	10	07	56.2		0.17	6.1
	D	iP		08	06.5			
	K	iP	15	27	46.5			
	T	iP			46.6			
	D	iP			50.8			
	K	eP	16	12	26.3			
	D	eP			29.6			
	T	eP			33.0		0.17	2.0
	D	eP	20	42	03.4			
	T	eP			04.9			
DEC. 31	T	iP	21	41	38.2			
	D	iP			49.7			
	K	eP			52.8			
	T	iP	22	53	23.5			
	K	iP			28.7			
	D	iP			28.9			
	K	eP	15	12	18.6			
	T	eP			31.2		0.17	2.0
		eS		13	55.9			
	D	eP		12	32.6			
	D	iP	22	56	11.3			
	K	eP			11.7			
	T	iP			15.8		0.17	4.9
	K	eP	22	58	16.3			
	D	eP			25.2			
	T	iP			26.0		1.2	56.8